

## Strategies for Developing Sport for All Through Modern Technologies in Iraq

### Abstract

**Purpose:** This study aimed to identify and prioritize the internal and external factors affecting the development of Sport for All through modern technologies in Iraq and to formulate appropriate development strategies.

**Methods:** An applied, descriptive survey design was employed. The population comprised managers, policymakers, specialists, and experts involved in Iraqi Sport for All and sports technology. Census sampling included all 70 eligible experts. Data were collected using a 40-item researcher-developed SWOT questionnaire. Its content validity was confirmed by 10 academic and professional experts, and satisfactory internal consistency was established (Cronbach's  $\alpha = 0.887$ ). Data were analyzed using the Friedman test and the Internal Factor Evaluation, External Factor Evaluation, and Internal–External matrices.

**Results:** Significant differences were found among the rankings of the factors within all four SWOT dimensions. Experience in organizing large-scale Sport for All events was the highest-ranked strength, whereas insufficient investment and financial-resource allocation represented the principal weakness. Support from Islamic teachings and Iraqi cultural values was the leading opportunity. The absence of an integrated system for attracting, directing, and monitoring nongovernmental funding and technological investment constituted the most important threat. The internal and external factor scores were 3.04 and 3.26, respectively, placing Iraqi Sport for All in a growth-oriented strategic position and supporting Strengths–Opportunities strategies.

**Conclusion:** Technology-driven Sport for All development in Iraq requires expanded digital sports services, integrated monitoring systems, stronger private-sector participation, improved digital competencies among managers, and equitable public access to technology-based programs. Coordinated implementation of these strategies can promote sustainable public participation in physical activity throughout Iraq.

**Keywords:** Sport for All; modern technologies; strategic planning; SWOT analysis; Iraq.

## Introduction

Physical inactivity is a major and growing public health concern worldwide. Regular physical activity reduces the risk of cardiovascular disease, type 2 diabetes, several cancers, depression, and premature mortality while contributing to physical, psychological, and social well-being. Nevertheless, a pooled analysis of 507 population-based surveys involving 5.7 million participants showed that 31.3% of adults worldwide did not meet the recommended levels of physical activity in 2022. This prevalence increased from 23.4% in 2000 and may reach approximately 35% by 2030 if current trends continue. Consequently, the development of accessible and inclusive opportunities for physical activity has become an important component of national health, sport, education, and sustainable-development policies. The World Health Organization has also emphasized that increasing population-level physical activity requires coordinated actions across sport, health, education, transportation, urban planning, and community sectors rather than isolated programs implemented exclusively by sports organizations (World Health Organization, 2018).

Sport for All provides an important framework for translating these policy objectives into regular participation in physical activity. It encompasses accessible recreational and community-based sporting activities designed for individuals of different ages, abilities, social groups, and levels of sporting experience. Its development extends beyond the provision of sports facilities and requires supportive policies, competent management, appropriate financing, trained human resources, public awareness, institutional cooperation, and equitable access to programs. In this regard, Sport for All can contribute to public health, social inclusion, constructive use of leisure time, community interaction, and improved quality of life. However, achieving these outcomes requires national systems capable of identifying population needs, reducing barriers to participation, coordinating responsible organizations, and continuously evaluating the accessibility and effectiveness of sports services.

Digital technologies have created new opportunities to increase the reach, flexibility, personalization, and evaluability of Sport for All programs. Mobile applications, wearable activity monitors, smartwatches, online exercise programs, social media, virtual coaching, artificial intelligence, and integrated sports-information systems can provide users with activity monitoring, personalized feedback, instructional content, motivational support, and remote access to physical activity programs. These technologies can also assist sports organizations in collecting participation data, identifying underserved populations, monitoring program outcomes, and allocating resources more effectively. Evidence indicates that technology-mediated physical activity can support motivation, participation, and psychological well-being, although the effectiveness of these technologies may vary according to users' demographic characteristics, access, motivations, and perceived barriers (Liu et al., 2023). An umbrella review of 22 systematic reviews similarly concluded that digital interventions, including mobile health applications, electronic health services, and wearable activity trackers, generally produce positive effects on physical activity, step counts, and moderate-to-vigorous physical activity. Nevertheless, limited evidence regarding long-term

maintenance and variations in digital access demonstrates that technology should be incorporated into a comprehensive and context-sensitive policy framework (Alley et al., 2024).

The need for such a framework is particularly important in Iraq. The World Health Organization's national physical activity profile identifies the development of national policies, surveillance systems, public communication programs, trained personnel, supportive environments, and multisectoral partnerships as essential components of physical activity promotion in the country. Evidence from Iraqi populations also demonstrates the importance of addressing physical inactivity systematically. Research conducted among Iraqi adults found meaningful relationships among physical activity, general health, quality of life, eating behavior, and mood, confirming that physical activity is connected with several dimensions of population health (Rahim et al., 2023). A study conducted among women in Erbil also reported insufficient participation in physical activity and identified lack of time, family responsibilities, environmental conditions, and limited access to suitable facilities among the barriers to exercise (Shabu et al., 2023). These findings indicate that increasing participation requires interventions that correspond to Iraq's social, cultural, institutional, economic, and infrastructural conditions.

The expansion of Internet access, smartphones, social media, digital education, and electronic public services provides Iraq with opportunities to overcome some conventional barriers to participation in Sport for All. Technology-based programs can extend services to people who have limited access to sports facilities, provide culturally appropriate educational content, facilitate communication between citizens and sports organizations, and support the monitoring of participation across provinces and population groups. At the same time, the adoption of these technologies may be constrained by unequal digital access, insufficient investment, limited digital competencies among managers and coaches, fragmented organizational responsibilities, absence of integrated databases, weak cooperation between public and private institutions, and inadequate mechanisms for attracting and monitoring technological investment. Therefore, the application of modern technologies should not be treated merely as the purchase or use of digital devices. It requires an integrated strategy connecting technological capacity with institutional reform, financial sustainability, human-resource development, public engagement, and equitable access.

Despite the importance of this issue, the available Iraqi literature has predominantly examined physical activity levels, health-related outcomes, and individual barriers to exercise. Limited attention has been paid to the strategic conditions required to integrate modern technologies into the national Sport for All system. In particular, the existing literature has not adequately identified the internal organizational strengths and weaknesses of Iraqi Sport for All alongside the external technological, cultural, economic, and institutional opportunities and threats. This knowledge gap restricts policymakers' ability to prioritize interventions and determine whether current organizational capabilities correspond to changes in the external environment. SWOT analysis provides an appropriate framework for this purpose because it enables the systematic evaluation of internal and external strategic factors and supports the formulation of Strengths–Opportunities,

Weaknesses–Opportunities, Strengths–Threats, and Weaknesses–Threats strategies (Benzaghta et al., 2021).

Accordingly, the present study aimed to identify and prioritize the strengths, weaknesses, opportunities, and threats affecting the development of Sport for All through modern technologies in Iraq and to formulate strategies consistent with the country's strategic position. Unlike studies limited to describing physical activity levels or individual barriers, this study integrates organizational, technological, financial, cultural, managerial, and environmental factors within a unified strategic framework. The findings are expected to provide evidence for developing digital sports services, strengthening institutional coordination, improving managers' technological competencies, attracting nongovernmental investment, establishing integrated participation-monitoring systems, and expanding equitable access to technology-supported Sport for All programs throughout Iraq.

## **Materials and Methods**

This study was applied in terms of its purpose because its findings can inform policymaking, strategic planning, and managerial decision-making concerning the development of technology-driven Sport for All in Iraq. Regarding data collection, the study employed a descriptive research design to examine the current situation, identify the internal and external factors affecting the development of Sport for All, and formulate strategic solutions based on modern technologies.

The study population comprised all managers and officials involved in Sport for All in Iraq. More specifically, the population included managers of the Iraqi Federation of Sport for All, heads of specialized committees and associations affiliated with the Federation, heads of provincial Sport for All boards across Iraq, members of strategic councils, sport management specialists, sports technology experts, and other professionals with sufficient knowledge and experience in planning, developing, and managing technology-driven Sport for All. These individuals were selected as the target population because of their comprehensive knowledge of the current state of Sport for All, the capabilities of modern technologies, and the opportunities, limitations, and challenges associated with the development of this field in Iraq.

A census sampling method was employed to determine the study sample. Accordingly, all eligible individuals who were actively involved in the management, planning, policymaking, and development of Sport for All in Iraq at the time of data collection and possessed adequate knowledge of the current state of Sport for All and the application of modern technologies in this sector were included. These individuals were recognized as experts in Iraqi Sport for All and comprised a total of 70 participants. The inclusion of this expert group enabled the study to draw upon their specialized knowledge and managerial experience in identifying strategies for developing Sport for All through modern technologies.

Data were collected using a researcher-developed questionnaire designed in accordance with the objectives of the study, the theoretical foundations, the relevant research literature, and the specific conditions of Sport for All in Iraq. The questionnaire was developed to assess the current situation, identify deficiencies in the Sport for All system, and formulate strategies for developing Sport for All through modern technologies in Iraq. It comprised 40 items assessing various dimensions of the internal and external environments affecting technology-driven Sport for All. The items were organized into four principal dimensions:

1. Identifying and evaluating the weaknesses associated with the development of Sport for All and the application of modern technologies in Iraq.
2. Identifying and evaluating the existing strengths of the Iraqi Sport for All system and the technological capacities available for further development.
3. Identifying opportunities for developing Sport for All through modern technologies, including the expansion of digital infrastructure, social media, sports applications, electronic learning, artificial intelligence, smart sports management systems, and other emerging technologies.
4. Identifying threats and challenges confronting the technology-driven development of Sport for All in Iraq, including infrastructural limitations, cultural barriers, economic constraints, shortages of specialized human resources, the digital divide, and other relevant environmental factors.

To establish the scientific validity of the research instrument, the content validity of the questionnaire was evaluated by a panel of 10 university faculty members, sport management specialists, experts in modern technologies, and scholars specializing in strategic sports planning. The questionnaire was revised according to their recommendations and subsequently received final approval. Its internal consistency was assessed using Cronbach's alpha, which yielded a coefficient of 0.887. This value indicated satisfactory internal consistency and confirmed the reliability of the questionnaire for evaluating strategies aimed at developing Sport for All through modern technologies in Iraq.

The data analysis was conducted in several stages. First, a mean-comparison procedure was used to determine the perceived importance of each factor. The Friedman test was then employed to rank the strengths, weaknesses, opportunities, and threats affecting the development of Sport for All through modern technologies in Iraq. Finally, the Internal Factor Evaluation (IFE) Matrix, External Factor Evaluation (EFE) Matrix, and Internal–External (IE) Matrix were used to determine the strategic position of Iraqi Sport for All and formulate appropriate technology-driven development strategies. The results obtained from these analytical procedures provided the basis for proposing effective and practically applicable strategies for the sustainable development of Sport for All through modern technologies in Iraq.

## Results

The SWOT analytical framework was employed to determine the strategic position of technology-driven Sport for All development in Iraq and evaluate the most influential internal and external factors. A set of strengths, weaknesses, opportunities, and threats associated with this field was first identified. Following the collection of expert opinions, these factors were ranked according to their perceived importance and influence. The SWOT analysis enabled a systematic assessment of the existing capacities of the Iraqi Sport for All system, its internal limitations, the opportunities created by advances in digital technologies, and the environmental threats affecting the expansion of public participation in sport.

In addition to identifying the strategic factors, the analysis examined the relative importance of each internal and external component. This procedure determined which factors could play a more influential role in formulating strategies for developing Sport for All through modern technologies in Iraq. Accordingly, the final lists of strengths, weaknesses, opportunities, and threats were extracted and prioritized to provide an empirical basis for developing implementation strategies and policies in this field.

The statistical analysis addressed the following four research questions:

1. Are there significant differences among the rankings of the strengths affecting the development of Sport for All through modern technologies in Iraq?
2. Are there significant differences among the rankings of the weaknesses associated with the technology-driven development of Sport for All in Iraq?
3. Are there significant differences among the rankings of the opportunities available for developing Sport for All through modern technologies in Iraq?
4. Are there significant differences among the rankings of the threats affecting the development of Sport for All through modern technologies in Iraq?

The Friedman test was used to address these questions and determine whether the factors within each SWOT dimension differed significantly in their rankings. Table 1 presents the results of the Friedman tests. The detailed rankings of the strengths, weaknesses, opportunities, and threats are subsequently reported in Tables 2–5, respectively.

**Table 1.** *Friedman test results for the SWOT dimensions*

| SWOT dimension       | $\chi^2$ | df | $p$  | Significance level | Decision    |
|----------------------|----------|----|------|--------------------|-------------|
| <b>Strengths</b>     | 82.086   | 10 | .001 | .050               | Significant |
| <b>Weaknesses</b>    | 39.568   | 9  | .001 | .050               | Significant |
| <b>Opportunities</b> | 87.079   | 11 | .001 | .050               | Significant |
| <b>Threats</b>       | 15.978   | 6  | .014 | .050               | Significant |

As shown in Table 1, the Friedman test results were statistically significant for strengths,  $\chi^2(10) = 82.086$ ,  $p = .001$ ; weaknesses,  $\chi^2(9) = 39.568$ ,  $p = .001$ ; opportunities,  $\chi^2(11) = 87.079$ ,  $p = .001$ ; and threats,  $\chi^2(6) = 15.978$ ,  $p = .014$ . Therefore, significant differences existed among the rankings of

the factors within all four SWOT dimensions. This finding indicates that the factors within each dimension were not perceived as equally important. Some components played a more prominent role in the technology-driven development of Sport for All in Iraq, whereas others were assigned lower levels of importance. The findings therefore support the need to prioritize the strategic factors when formulating development programs and implementation policies.

Mean ranks were used to determine the relative importance and priority of the identified factors. Accordingly, the items representing the strengths, weaknesses, opportunities, and threats associated with technology-driven Sport for All in Iraq were evaluated and prioritized according to their mean-rank values. This procedure enabled the most influential factors to be identified and provided an empirical foundation for formulating appropriate development strategies.

Tables 2–5 present the detailed rankings of the items within each SWOT dimension. These rankings identify the strengths that can serve as strategic advantages in developing Sport for All in Iraq, the weaknesses requiring corrective action, the technological opportunities offering the greatest development potential, and the threats that may impede technology-driven Sport for All initiatives. Collectively, these findings provide a basis for designing policies, implementation programs, and strategic measures aimed at the sustainable development of Sport for All through modern technologies in Iraq.

### **Analysis of the Strengths, Weaknesses, Opportunities, and Threats Affecting Technology-Driven Sport for All Development in Iraq**

Tables 2–5 present the results of the SWOT analysis and indicate the relative importance and priority of the factors associated with developing Sport for All through modern technologies in Iraq. These findings were derived from the assessments provided by experts, managers, and specialists in Sport for All and sports technology. The results provide a clear representation of the strategic position of this field and assist sports policymakers and managers in identifying existing capacities, addressing internal limitations, and capitalizing on opportunities created by modern technologies.

### **Ranking of Strengths**

The results reported in Table 1 indicated significant differences among the rankings of the strengths affecting technology-driven Sport for All development in Iraq ( $p < .05$ ). This finding demonstrates that the identified strengths were not perceived as equally important. The ranking presented in Table 2 therefore identifies the organizational, managerial, technological, communicational, and human-resource capacities that can serve as strategic advantages in expanding public participation in sport.

**Table 2.** *Ranking of the strengths associated with Sport for All development in Iraq*

| <b>Rank</b> | <b>Mean rank</b> | <b>Strength</b>                                                                                                                                     |
|-------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           | 7.86             | <b>Experience in organizing large-scale Sport for All events</b>                                                                                    |
| 2           | 7.06             | <b>Motivation among managers and organizations to develop technology-driven Sport for All</b>                                                       |
| 3           | 6.21             | <b>Effective cooperation with traditional and digital media</b>                                                                                     |
| 4           | 5.99             | <b>Membership in and cooperation with The Association For International Sport for All (TAFISA) and the Asiana Sport for All Association (ASFAA)</b> |
| 5           | 5.47             | <b>Diversity of Sport for All disciplines suitable for technology-driven development</b>                                                            |

|    |      |                                                                                                                           |
|----|------|---------------------------------------------------------------------------------------------------------------------------|
| 6  | 5.39 | <b>Active Sport for All offices and boards across Iraqi provinces</b>                                                     |
| 7  | 5.32 | <b>Capacity to establish memoranda of understanding with organizations, universities, and technology companies</b>        |
| 8  | 5.22 | <b>Availability of experienced and specialized managers, experts, and coaches</b>                                         |
| 9  | 4.95 | <b>Capacity for cooperation among governmental institutions, private organizations, and nongovernmental organizations</b> |
| 10 | 4.36 | <b>An independent legal structure and adequate financial capacity</b>                                                     |

As shown in Table 2, experience in organizing large-scale Sport for All events received the highest mean rank (7.86), followed by the motivation of managers and organizations to develop technology-driven Sport for All (7.06) and effective cooperation with traditional and digital media (6.21). Conversely, an independent legal structure and adequate financial capacity received the lowest mean rank (4.36). These findings indicate that Iraq possesses valuable experiential, managerial, and media-related capacities, although its legal and financial capabilities require further development.

### Ranking of Weaknesses

The Friedman test results presented in Table 1 demonstrated significant differences among the rankings of the weaknesses affecting technology-driven Sport for All development in Iraq ( $p < .05$ ). The identified weaknesses were therefore prioritized according to their mean ranks. Table 3 presents the final ranking of these internal limitations.

**Table 3.** *Ranking of the weaknesses associated with Sport for All development in Iraq*

| Rank | Mean rank | Weakness                                                                                                                                                                                          |
|------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | 6.58      | <b>Insufficient investment and inadequate allocation of financial resources to technology-driven Sport for All</b>                                                                                |
| 2    | 6.51      | <b>Absence of a unified and comprehensive definition of Sport for All and physical activity that reflects the needs of Iraqi society and is supported by scientific research and digital data</b> |
| 3    | 6.40      | <b>Excessive dependence on government funding and limited use of innovative revenue sources, digital platforms, and private-sector investment</b>                                                 |
| 4    | 5.84      | <b>Absence of a national strategy for developing Sport for All through modern technologies, digital transformation, and sustainable development</b>                                               |
| 5    | 5.38      | <b>Lack of smart communication systems facilitating cooperation and information exchange among ministries, governmental organizations, private institutions, and sports organizations</b>         |
| 6    | 5.35      | <b>Underdeveloped sustainable economic models based on digital marketing, electronic commerce, sponsorship, and technology-enabled sports services</b>                                            |
| 7    | 5.05      | <b>Limited effectiveness of specialized Sport for All committees and councils in using intelligent systems for planning, monitoring, and performance evaluation</b>                               |
| 8    | 4.98      | <b>Persistence of traditional management and limited adoption of smart, data-driven management, electronic government, and sports management systems</b>                                          |
| 9    | 4.97      | <b>Lack of an integrated digital communication and information system for improving interaction, data management, and decision-making among Sport for All organizations</b>                       |
| 10   | 4.01      | <b>Inadequate development of human capital through digital-skills training, managerial empowerment, and recruitment of sports technology specialists</b>                                          |

The most highly ranked weakness was insufficient investment and inadequate allocation of financial resources to technology-driven Sport for All (6.58). This factor was followed by the absence of a unified and comprehensive definition corresponding to the needs of Iraqi society (6.51) and excessive dependence on government funding (6.40). Inadequate human-capital development received the lowest mean rank (4.01). Although it occupied the lowest position, it remained an internal limitation requiring managerial attention. These results provide an empirical foundation for

allocating resources, developing technological infrastructure, reforming managerial processes, and strengthening the financial sustainability of Sport for All in Iraq.

## Ranking of Opportunities

The findings associated with the third research question demonstrated significant differences among the rankings of the opportunities available for technology-driven Sport for All development in Iraq ( $p < .05$ ). The opportunities were consequently prioritized according to their mean ranks. Table 4 presents the results.

**Table 4.** *Ranking of the opportunities associated with Sport for All development in Iraq*

| Rank | Mean rank | Opportunity                                                                                                                                                                          |
|------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | 7.78      | Support provided by Islamic teachings and Iraqi cultural values for health promotion, social vitality, and participation in physical activity                                        |
| 2    | 7.56      | Increasing attention from the Iraqi government and policymaking institutions to digital transformation and the application of modern technologies in public health and Sport for All |
| 3    | 7.53      | Support from Iraqi health, educational, academic, and religious institutions for promoting physical activity and preventing sedentary behavior                                       |
| 4    | 7.15      | Expansion of public access to smartphones, the Internet, and social media for receiving Sport for All services                                                                       |
| 5    | 7.14      | Development of wearable technologies, sports software, artificial intelligence, and intelligent physical activity monitoring systems                                                 |
| 6    | 7.10      | Extensive capacity of social media and digital platforms for education, cultural promotion, and encouraging participation in physical activity                                       |
| 7    | 6.28      | Young demographic structure of Iraq and the readiness of younger generations to adopt digital technologies and sports services                                                       |
| 8    | 6.08      | Increasingly positive attitudes among Iraqi citizens toward the role of Sport for All in improving physical, psychological, and social health and quality of life                    |
| 9    | 5.99      | Potential use of Iraq's geographical, climatic, and natural diversity in designing smart walking, cycling, and nature-based sports programs                                          |
| 10   | 5.74      | Willingness of technology companies, mobile network operators, and economic institutions to invest in and sponsor digital Sport for All programs                                     |
| 11   | 5.68      | Increasing capacity for collaboration among ministries, universities, municipalities, sports federations, and health centers in implementing technology-based Sport for All programs |
| 12   | 4.06      | Availability of online educational platforms for improving the knowledge and skills of Sport for All managers, coaches, and practitioners                                            |

The strongest opportunity was the support provided by Islamic teachings and Iraqi cultural values for health promotion, social vitality, and participation in physical activity (7.78). This factor was followed by increasing governmental attention to digital transformation (7.56) and institutional support for promoting physical activity and reducing sedentary behavior (7.53). The availability of online educational platforms for developing the knowledge and skills of managers, coaches, and practitioners received the lowest mean rank (4.06). Overall, the results demonstrate that Iraq possesses substantial cultural, governmental, institutional, and technological opportunities for developing Sport for All.

## Ranking of Threats

The findings associated with the fourth research question indicated significant differences among the rankings of the threats affecting technology-driven Sport for All development in Iraq ( $p < .05$ ).

The identified threats were therefore prioritized according to their mean ranks. Table 5 presents their final ranking.

**Table 5.** *Ranking of the threats associated with Sport for All development in Iraq*

| Rank | Mean rank | Threat                                                                                                                                                                                             |
|------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | 4.46      | <b>Absence of an integrated system for attracting, directing, and monitoring nongovernmental financial resources and technological investments in Iraqi Sport for All</b>                          |
| 2    | 4.43      | <b>Limited motivation among private-sector organizations and technology companies to invest in digital infrastructure, platforms, and Sport for All services</b>                                   |
| 3    | 4.19      | <b>Inadequate knowledge among Iraqi managers and experts regarding international capacities, emerging technologies, and successful global models of smart Sport for All development</b>            |
| 4    | 4.06      | <b>Weak interaction and absence of joint meetings among ministries, universities, municipalities, sports federations, and technology companies to coordinate smart Sport for All programs</b>      |
| 5    | 3.80      | <b>Expansion of social and behavioral problems, dissemination of non-scientific content, and emergence of unhealthy competition on social media and virtual platforms related to Sport for All</b> |
| 6    | 3.73      | <b>Implementation of fragmented, parallel, and nonstandardized digital programs and systems by Iraqi organizations involved in Sport for All</b>                                                   |
| 7    | 3.41      | <b>Limited representation and influence of Iraqi managers and specialists in regional and international institutions and decision-making bodies related to Sport for All and sports technology</b> |

The absence of an integrated system for attracting, directing, and monitoring nongovernmental financial resources and technological investments was identified as the most important threat (4.46). Limited private-sector motivation to invest in digital Sport for All infrastructure and services ranked second (4.43), while inadequate managerial knowledge of international capacities and emerging technologies ranked third (4.19). Limited Iraqi representation in regional and international institutions received the lowest mean rank (3.41). These results indicate that the most pressing external challenges relate to financial governance, private investment, international knowledge, and interorganizational coordination.

## **Strategies for Developing Sport for All through Modern Technologies in Iraq**

### **Strategic Position of Sport for All**

Following the identification and prioritization of the internal factors, comprising strengths and weaknesses, and the external factors, comprising opportunities and threats, the Internal Factor Evaluation and External Factor Evaluation matrices were constructed. Among the strengths, experience in organizing large-scale Sport for All events received the highest mean rank, whereas an independent legal structure and adequate financial capacity received the lowest rank. Among the weaknesses, insufficient investment and inadequate financial-resource allocation received the highest mean rank, while inadequate human-capital development received the lowest rank.

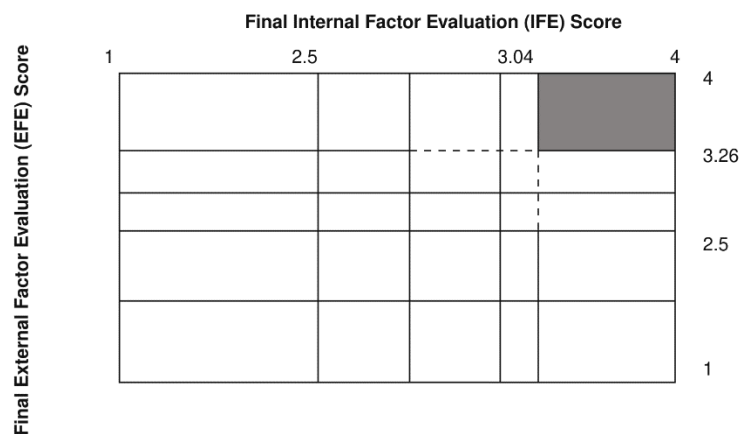
Among the opportunities, support from Islamic teachings and Iraqi cultural values for health promotion, social vitality, and participation in physical activity obtained the highest mean rank. In contrast, the availability of online educational platforms for improving the knowledge and skills of Sport for All managers, coaches, and practitioners received the lowest mean rank. Among the threats, the absence of an integrated system for attracting, directing, and monitoring nongovernmental financial resources and technological investments received the highest mean rank. Limited

representation and influence of Iraqi managers and specialists in regional and international decision-making institutions received the lowest rank.

The total weighted score of the Internal Factor Evaluation Matrix was 3.04, while that of the External Factor Evaluation Matrix was 3.26. The positioning of these scores within the Internal–External Matrix placed Iraqi Sport for All in a growth-oriented strategic region. This position supports the adoption of an aggressive Strengths–Opportunities strategy. Under this strategic orientation, the Sport for All system can use its internal strengths to capitalize on favorable opportunities in the external environment. Based on this strategic position, the following strategies were formulated:

1. Expand the scope and improve the quality of Sport for All through technological tools and digital platforms.
2. Facilitate and broaden citizens’ access to Sport for All activities through accessible digital solutions.
3. Promote a culture of sport, physical activity, and health through modern media and social media.
4. Reform and improve the national Sport for All management structure in accordance with the requirements of the technological era.
5. Expand the participation of public institutions, private-sector organizations, and civil society organizations in Sport for All development through electronic platforms.
6. Develop and apply information and communication technologies to the planning, implementation, monitoring, and evaluation of Sport for All programs.

**Figure 1.** *Internal–External (IE) Matrix for Technology-Driven Sport for All Development in Iraq.*



## Discussion

The present study aimed to determine the strategic position of Sport for All and formulate strategies for its development through modern technologies in Iraq. The findings demonstrated that the internal and external factors affecting this field did not have equal levels of importance, as significant differences were observed among the rankings of the strengths, weaknesses, opportunities, and threats. This result highlights the need to prioritize strategic factors and concentrate managerial, financial, and technological resources on the most influential components. The scores obtained from

the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices further indicated that the Iraqi Sport for All system possesses favorable internal capabilities and environmental opportunities for pursuing growth-oriented strategies. Accordingly, developing technology-driven Sport for All in Iraq requires the purposeful utilization of existing capacities alongside the systematic correction of managerial, structural, and economic deficiencies.

Among the strengths, experience in organizing large-scale Sport for All events received the highest ranking. The motivation of managers and organizations to develop technology-driven Sport for All and effective cooperation with traditional and digital media occupied the subsequent positions. These findings indicate that the Iraqi Sport for All system possesses valuable operational experience, managerial motivation, and communication capacity. Experience in organizing large-scale events strengthens the organizational capabilities required to design and implement extensive public sports programs. Managerial motivation facilitates the acceptance of technological change and the implementation of digital transformation policies. Cooperation with traditional and digital media also improves public communication, education, cultural promotion, and citizen engagement. These findings are consistent with those reported by Gholinia (2004), Nasirzadeh (2008), Jahanbini (2009), Yarahmadi (2009), and Mousavi Jahanabad (2010), whose studies emphasized the roles of managerial capacity, strategic planning, public participation, and effective organizational structures in Sport for All development.

Membership in and cooperation with international Sport for All associations, the diversity of disciplines suitable for technology-driven development, the activities of provincial Sport for All offices and boards, and the capacity to establish memoranda of understanding with universities and technology companies were also identified as important strengths. These capacities provide a foundation for knowledge transfer, the adoption of successful international practices, human-resource development, and the implementation of technology-based initiatives. The geographical distribution of provincial offices and boards also facilitates the delivery of programs appropriate to the demographic, cultural, and geographical characteristics of different Iraqi regions. Nevertheless, an independent legal structure and adequate financial capacity received the lowest ranking among the strengths. This finding indicates that the existing operational capacities have not been supported by a corresponding level of legal autonomy and financial capability. Therefore, implementing technology-based programs requires a stronger organizational position, clearly defined responsibilities, and sustainable financial mechanisms.

Regarding weaknesses, insufficient investment and inadequate allocation of financial resources to technology-driven Sport for All constituted the most important internal limitation. The absence of a unified and comprehensive definition of Sport for All and physical activity that corresponds to the needs of Iraqi society and excessive dependence on government funding occupied the subsequent positions. These findings demonstrate that the principal challenges confronting Sport for All development in Iraq extend beyond limited access to technology. Weaknesses in the financing system, the absence of a shared conceptual framework, and organizational dependence on public funding also restrict development. The absence of a common definition of Sport for All leads to fragmented policymaking, inconsistent implementation priorities, and difficulties in evaluating organizational performance. Dependence on government funding also exposes the continuity of programs to financial constraints and changes in public-sector priorities.

The findings related to weaknesses are consistent with those of Gholinia (2004), Nasirzadeh (2008), Jahanbini (2009), Yarahmadi (2009), and Mousavi Jahanabad (2010). These studies identified inadequate financial resources, the absence of comprehensive planning, limited specialized human resources, weak coordination among responsible organizations, inadequate communication, and fragmented management as barriers to Sport for All development. The present study extends these findings within the context of digital transformation. It demonstrates that the absence of a national technology-driven strategy, the lack of an integrated communication and information system, the persistence of traditional management practices, underdeveloped sustainable economic models, and limited smart communication systems constitute major challenges in the contemporary Iraqi Sport for All system.

The absence of a national strategy for technology-driven Sport for All development also occupied a prominent position among the identified weaknesses. Without such a strategy, organizational actions remain fragmented, parallel programs proliferate, resources are inefficiently allocated, and common performance-evaluation criteria remain unavailable. A national strategy should clearly define institutional responsibilities, quantitative and qualitative objectives, infrastructure requirements, financing mechanisms, data-management procedures, and program-monitoring arrangements. Furthermore, developing economic models based on digital marketing, electronic commerce, sponsorship, and technology-enabled sports services would reduce dependence on public funding and improve program continuity. Inadequate human-capital development received the lowest ranking among the weaknesses. Its lower ranking does not diminish its practical relevance because intelligent systems cannot operate effectively without managers, experts, and coaches who possess adequate digital competencies.

Among the opportunities, support from Islamic teachings and Iraqi cultural values for health promotion, social vitality, and participation in physical activity received the highest ranking. Increasing governmental and policymaking attention to digital transformation and support from health, educational, academic, and religious institutions for promoting physical activity occupied the subsequent positions. These findings demonstrate that technology-driven Sport for All development benefits from favorable cultural, religious, and institutional foundations. Aligning Sport for All programs with widely accepted social values reinforces their social legitimacy and encourages the participation of families, younger people, and different social groups. Support from educational, academic, and health institutions also transforms Sport for All from a narrowly defined organizational activity into an integral component of public health and education policies.

Expanding public access to smartphones, the Internet, and social media and advances in wearable technologies, sports software, artificial intelligence, and intelligent physical activity monitoring systems were also identified as major environmental opportunities. These technologies facilitate the delivery of sports education, activity recording, physical indicator monitoring, virtual programs, and health-related messages. Iraq's young population also demonstrates a strong capacity to adopt digital services and provides a favorable social foundation for technology-based initiatives. These findings are consistent with the results reported by Gholinia (2004), Nasirzadeh (2008), Jahanbini (2009), Yarahmadi (2009), and Mousavi Jahanabad (2010). These studies similarly identified policymaker support, growing public awareness, media capacity, private-sector participation, public spaces, and increasing public interest in sport as opportunities for Sport for All development.

Iraq's geographical and climatic diversity also offers opportunities to design intelligent walking, cycling, and nature-based sports programs. Location-based applications, digital activity maps, route-tracking systems, and virtual sporting events can facilitate the effective use of these capacities. However, the availability of online educational platforms for improving the knowledge and skills of Sport for All managers, coaches, and practitioners received the lowest ranking among the opportunities. This finding indicates that online education has not yet become fully institutionalized within the Iraqi Sport for All system. The development of accredited courses, locally appropriate educational content, and structured assessment and certification systems would strengthen the utilization of this opportunity.

Regarding threats, the absence of an integrated system for attracting, directing, and monitoring nongovernmental financial resources and technological investments represented the most important external threat. Limited motivation among private-sector organizations and technology companies to invest in digital Sport for All infrastructure, platforms, and services ranked second. These findings demonstrate that weak financial governance increases investment risks and restricts private-sector involvement. Establishing transparent legal mechanisms, defining investable projects, providing economic incentives, and implementing transparent financial-reporting systems would facilitate sustainable private-sector participation.

Inadequate knowledge among Iraqi managers and specialists concerning emerging technologies, international capacities, and successful global practices also constituted an important threat. Weak interaction among ministries, universities, municipalities, sports federations, and technology companies, the implementation of fragmented and nonstandardized programs, and the dissemination of non-scientific content through social media further impede development. These findings correspond with previous evidence concerning weak organizational coordination, inadequate financial support, limited awareness, and insufficient media involvement. The present study highlights the technological dimensions of these threats and demonstrates that technology-driven Sport for All development requires effective data governance, standardized digital services, interorganizational coordination, and improved managerial knowledge.

The simultaneous analysis of the internal and external factors produced an IFE score of 3.04 and an EFE score of 3.26. Both scores exceeded the reference value of 2.50, indicating that internal strengths outweighed weaknesses and environmental opportunities outweighed threats. The positioning of the Iraqi Sport for All system within a growth-oriented strategic region supports the adoption of Strengths–Opportunities strategies. Under this strategic orientation, Iraq should use its experience in organizing large-scale events, managerial motivation, media capacity, and international relationships to capitalize on cultural support, governmental attention to digital transformation, expanding Internet access, and advances in sports technologies.

Accordingly, the principal components of the recommended growth strategy include quantitatively expanding and qualitatively improving Sport for All through digital tools, facilitating citizens' access to sports services, reforming the national management structure, strengthening public- and private-sector participation, promoting physical activity through social media, and incorporating information technologies into the planning, implementation, and monitoring of Sport for All programs. Establishing a national center for digital Sport for All development, creating a national physical activity monitoring system, designing locally developed sports applications, implementing online educational programs, improving the digital competencies of managers and coaches,

strengthening the involvement of technology companies, and adopting an independent legal framework would operationalize these strategies. These measures should be implemented through a phased national program supported by a clearly defined budget and measurable performance indicators.

## **Conclusion**

The findings position technology-driven Sport for All in Iraq within a growth-oriented strategic context, where existing institutional capabilities can be aligned with emerging technological and societal opportunities. However, converting this favorable position into sustainable outcomes requires more than isolated digital initiatives. Technology must be integrated into national Sport for All policy through coordinated governance, sustainable financing, professional capacity building, reliable data systems, and equitable service provision.

Priority actions include establishing an integrated national database for physical activity participation, developing inclusive digital services, strengthening public–private partnerships, adopting common technological standards, and improving the digital competencies of managers and coaches. Particular attention should be directed toward populations facing structural barriers to participation, including women, older adults, persons with disabilities, rural residents, and socioeconomically underserved groups. These measures can strengthen evidence-based decision-making, improve managerial effectiveness, broaden access to physical activity, and support public health objectives.

The findings should nevertheless be interpreted in view of the expert-based, cross-sectional design and the absence of direct evidence from citizens and digital-service users. Future studies should examine provincial disparities, technology acceptance, digital inequality, and user experiences through representative, longitudinal, and intervention-based designs. Evaluating the effectiveness and scalability of specific applications, wearable technologies, and intelligent monitoring systems will also be necessary. Overall, the sustainable development of technology-driven Sport for All in Iraq depends on translating the proposed strategies into a coordinated national implementation framework supported by measurable targets, institutional accountability, and continuous evaluation.

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## References

1. Afarinesh Khaki, A., Mozaffari, S. A. A., & Tondnevis, F. (2005). A comparison of the perspectives of faculty members, coaches, athletes, and managers regarding the development of Sport for All. *Research in Sport Management and Motor Behavior*, 3(5), 1–22. (in Persian). <https://www.noormags.ir/view/fa/articlepage/110871>
2. Andrews, K. R. (1980). *The concept of corporate strategy* (Rev. ed.). Richard D. Irwin. [https://archive.org/details/conceptofcorpora00andr\\_0](https://archive.org/details/conceptofcorpora00andr_0)
3. Ansoff, H. I. (1994). Comment on Henry Mintzberg's rethinking strategic planning. *Long Range Planning*, 27(3), 31–32. [https://doi.org/10.1016/0024-6301\(94\)90187-2](https://doi.org/10.1016/0024-6301(94)90187-2)
4. Collins, M. F. (2002). England: Sport for All as a multifaceted product of domestic and international influences. In L. P. DaCosta and A. Miragaya (Eds.), *Worldwide experiences and trends in Sport for All* (pp. 493–522). Meyer & Meyer Sport. <https://books.google.com/books?id=Q4yBAAAAAMAAJ>
5. Ghafouri, F. (2006). *A study of preferred forms of Sport for All and recreational activities and the development of a model for future planning* [Research report]. Physical Education Organization. (in Persian).
6. Haslip, S. (2001). A treaty right to sport? *Murdoch University Electronic Journal of Law*, 8(2). <https://www5.austlii.edu.au/au/journals/MurdochUeJILaw/2001/14.html>
7. Jahanbini, A. (2009). *Developing strategies for the advancement of Sport for All and elite sport in Qom Province* [Master's thesis, Payame Noor University, Tehran Center]. (in Persian).
8. Javadipour, M. (2011). *Strategic plan of the Federation of Sport for All* [Research report]. Ministry of Sport and Youth, Federation of Sport for All. (in Persian).
9. Mintzberg, H. (1990). The design school: Reconsidering the basic premises of strategic management. *Strategic Management Journal*, 11(3), 171–195. <https://doi.org/10.1002/smi.4250110302>
10. Mohammadgholinia, J. (2004). *Creating the necessary foundations and planning for the universalization of sport* [Research report]. Physical Education Organization. (in Persian).
11. Mohammadgholinia, J., Javadipour, M., Farajzadeh, S., & Eftekhari Gol, E. (2008). *Conceptualizing Sport for All for marketing purposes: The position of citizen sport, its objectives, functions, and contexts* [Research report]. Physical Education Organization. (in Persian).
12. Mousavi Jahanabad, A. (2010). *A comparative examination of the status of Sport for All in Fars and Kohgiluyeh and Boyer-Ahmad provinces* [Master's thesis, Payame Noor University, Tehran Province, Faculty of Humanities]. <https://www.virascience.com/thesis/514447/> (in Persian).
13. Mozaffari, S. A. A., & Qareh, M. A. (2005). The status of Sport for All in Iran and its comparison with selected countries. *Movement Sciences and Sports*, 3(6), 151–171. <https://sid.ir/paper/74759/en>. (in Persian).
14. Nasirzadeh, S. M. (2008). *Developing strategies for the advancement of elite sport and Sport for All in Kerman Province* [Master's thesis, Payame Noor University, Tehran Center]. (in Persian).
15. Qareh, M. A. (2004). *The status of Sport for All in Iran and its comparison with selected countries* [Doctoral dissertation, Tarbiat Moallem University, Faculty of Physical Education and Sport Sciences]. (in Persian).
16. Sport England. (2002). *Positive Futures: A review of impact and good practice*. <https://furd.org/library/comm6>
17. Yarahmadi, M. (2009). *An examination of the current status of elite sport and Sport for All in Dorud County* [Master's thesis, Payame Noor University, Tehran Center]. (in Persian).
18. Alley, S. J., Waters, K. M., Parker, F., Peiris, D. L. I. H. K., Fien, S., Rebar, A. L., & Vandelanotte, C. (2024). The effectiveness of digital physical activity interventions in older adults: A systematic umbrella review and meta-meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 21, 144. <https://doi.org/10.1186/s12966-024-01694-4>
19. Benzaghta, M. A., Elwalda, A., Mousa, M. M., Erkan, I., & Rahman, M. (2021). SWOT analysis applications: An integrative literature review. *Journal of Global Business Insights*, 6(1), 55–73. <https://doi.org/10.5038/2640-6489.6.1.1148>
20. Liu, Y., Zhang, H., & Xu, R. (2023). The impact of technology on promoting physical activities and mental health: A gender-based study. *BMC Psychology*, 11, 298. <https://doi.org/10.1186/s40359-023-01348-3>

21. Rahim, H. A., Hoseini, R., Hoseini, Z., Abbas, E. N., & Kareem, D. A. (2023). Health-related factors of the Iraqi adult population during the 2020 COVID-19 pandemic: Physical activity, eating behavior, quality of life, general health, and mood states cross-talk. *BMC Public Health*, 23, 1046. <https://doi.org/10.1186/s12889-023-15898-z>
22. Shabu, S. A., Abdulla, S. O., & Al-Tawil, N. G. (2023). A cross-sectional study on the perceived barriers to physical activity and their associations with sociodemographic characteristics among women in Erbil, Iraqi Kurdistan Region. *BMC Women's Health*, 23.
23. Strain, T., Flaxman, S., Guthold, R., Semanova, E., Cowan, M., Riley, L. M., Bull, F. C., & Stevens, G. A. (2024). National, regional, and global trends in insufficient physical activity among adults from 2000 to 2022: A pooled analysis of 507 population-based surveys with 5.7 million participants. *The Lancet Global Health*, 12(8), e1232–e1243. [https://doi.org/10.1016/S2214-109X\(24\)00150-5](https://doi.org/10.1016/S2214-109X(24)00150-5)