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Barriers to Implementing Innovation in the Sports Clubs during COVID-19 Pandemic: An Approach for the Future Crises

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ABSTRACT

The purpose of the present study was to identify barriers to implementing innovation in sports clubs during the COVID-19 pandemic. The research approach was mixed. In the qualitative part, interviews with 13 owners of sports clubs were conducted. The statistical sample in the quantitative part, based on Structural Equation Modeling (SEM), included 200 sports club owners in Chaharmahal and Bakhtiari, Iran. The results showed that barriers to implementing innovation in sports clubs were individual, structural, and environmental obstacles. Considering the entrepreneurial ecosystem and all stakeholders involved in the sports community, providing favorable conditions such as intellectual property protection, financial support, research, and development support, as well as improving access to financial capital, can pave the way for the creation and implementation of sports innovations in clubs, especially in crises.

Introduction

All organizations need new ideas and innovations to survive (Ratten, 2018). The flow of creativity and innovation in the organization must be continued to prevent destruction (Ratten & Nanere, 2020). One of the environmental changes in today's world was the COVID-19 pandemic, which affected all sectors of business, especially sports clubs, which necessitated the use of innovation to overcome the destruction of a sports club (Ratten, 2020b).

Despite the undeniable importance of innovation in sports, it has not received scientific attention. On the other hand, COVID-19 has affected all sectors of the global economy. The sports sector has been significantly affected by the COVID-19 pandemic, which means the urgent need for most sports

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businesses to think. There have been cases of creative approaches and methods to deal with some changes (Ratten, 2020b). Some researchers have studied a particular approach to innovation in sports and discussed the importance of sports innovation (Mullin, Hardy, & Sutton, 2014; Ratten, 2011; Schwarz & Hunter, 2017). Ringuet-Riot et al. (2014) believe that technology-based innovation plays a vital role in sports. Innovation helps businesses create new knowledge of their profession by combining existing resources, skills, and other assets (Ringuet-Riot, Carter, & James, 2014).

Previous studies have examined samples of barriers to innovation in the pre-COVID-19 pandemic situation. Therefore, the purpose of the present study was to identify obstacles to implementing innovation in sports clubs. The necessity of this issue is due to the increase in the number of sports businesses. One of the reasons that cause the instability and unsustainability of sports businesses is the lack of innovation and the challenges they face. According to the available statistics, the duration of sports businesses has decreased over time. Only 8.5% of sports businesses have lasted more than 21 years, which could indicate a lack of innovation in sports businesses. The COVID-19 crisis has made it difficult for sports businesses, mainly sports clubs, to survive. Indeed, there are many obstacles to implementing innovations in sports clubs, especially in Iran.

This research contributes to the literature on sports innovation and investigates the necessity for implementing innovation in sports clubs during the COVID-19 pandemic. First, we introduce innovations in sports and the importance of sports innovation for clubs and its challenges by reviewing the previous studies. Second, we investigate the barriers to implementing the sports innovation duration COVID-19 pandemic. Many businesses have been affected by the outbreak of the Corona disease, which highlights the role of innovation during the pandemic crisis. While the sports industry represents one of the most entrepreneurial sectors of the world economy, COVID-19 disease has had a significant impact on its ability to stay competitive (Parnell et al., 2015). Thus, the purpose of the study was to identify barriers to the implementation of innovation in sports clubs.

Theoretical Foundations and Research Background

Sports Club's Innovation

Sport is an entrepreneurial process in which innovation, taking risks, proactiveness, and creating value are crucial (Ratten, 2010). One of the aspects of innovation is named open innovation. Open innovation means "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation, respectively" (Chesbrough, Vanhaverbeke, & West, 2006). Indeed, innovation in sports clubs as a service innovation can happen from inside or outside the clubs.

Tjønndal (2017) addresses the issue of innovation in sports, which includes five types: social innovation, technological innovation, business innovation, innovation based on society, and organizational innovation (Tjønndal, 2017). All of these innovations could happen in sports clubs. For example, new sports or activities have emerged as service innovations. Zumba (a rhythmic movement training program) is an example of a recent recreational physical activity in the 90s. We believe that new sports or leisure activities are a notable service innovation. As suggested by Edvardsson and Olsson (1996) in service innovation, it is not only the services themselves that have been created but also the new conditions that have arisen for services (Edvardsson & Olsson, 1996). Similarly, for Zumba, these conditions include fitness trainers practicing Zumba, participants in Zumba skills, a room suitable for this type of activity, etc. Service innovation theory applies to all physical and recreational activities or all-new sports as long as customers are not involved in the activity, such as spectators (sports spectators for a football match). Another example of innovation in sports services (such as technical innovation) is a new exercise program called running, created by sports federations and sports clubs in Belgium to assess people of all ages up to five kilometers. Other examples of innovation in sports services are 360 Ball, a new form of squash tennis game developed in 2011, and Zorbing, which is the fun of rolling downhill inside a transparent ball. These new sports are offered at a specific price (or cost) for use in a limited area and special equipment. These factors provide the conditions for new sports to be experienced. Note that when sports customers decide to

buy new equipment for new sports and functions whenever and wherever they want (such as a Zorb), this should not be construed as a service that they offer over a while (Ratten & Ferreira, 2017).

Challenges of Implementing the Innovation in Sports Clubs

Examples of case studies about innovation in sports organizations in literature are the philosophy of new employees in a sports club (Gilmore, Gallagher, & O'Dwyer, 2011), new sports equipment (Franke & Shah, 2003), new programs, online services, and stakeholders (Hoeber & Hoeber, 2012), the new computer optimization system, and the athlete ranking system (Casa, 2000) the technological innovation such as the electronic game version (Hoeber & Hoeber, 2012). There are many barriers to implementing innovations in sports clubs, especially in Iran. These obstacles are lack of encouragement and support for pioneers and supporters of creation, rejection of risk, failure and mistakes of employees as inevitable issues in the innovation process, lack of access to resources, facilities, and equipment, and not having free time to think about a new idea, handing over new proposals and ideas for approval, lack of quick response to new ideas and suggestions, and lack of anonymous suggestion system, lack of access to reliable, transparent, relevant and timely information, conflict, tension, and employee dissatisfaction. Previous research has examined a sample of innovations in sports or barriers to innovation in the pre-COVID-19 pandemic condition, as shown in Table 1.

Table 1. Challenges of innovation in sports clubs in the previous studies and literature

Authors	Research title	Description
(Newell & Swan, 1995)	Innovation process in sports organizations	Factors affecting the innovation process in sports organizations were structure and strategy (input) of education, media, sponsors, other sports organizations, internal networks and the type of sports organization (process), and finally, organizational change (Result).
(Wemmer & Koenigstorfer, 2016)	Open innovation in non-profit sports clubs	The research develops a framework for open innovation, containing four dimensions, including permeability of the club's boundary, application, and implementation of open innovation practices, competencies, and environmental and organizational surroundings in sports clubs.
(Omar, Nazri, Alam, & Ahmad, 2016)	Assessing the factors affecting service innovation and performance	Factors affecting service innovation capability were organizational structure, learning, transformational leadership, and customer orientation.
(Winand & Hoeber, 2017)	Innovation capability of non-profit sports organizations	The results showed that four dimensions for innovation in non-profit sports organizations were strategy, user, human resources, and finance.
(Escamilla-Fajardo, Núñez-Pomar, & Parra-Camacho, 2019)	Does the organizational climate predict innovation in sports clubs?	The results showed significant differences in innovation in sports clubs based on competition. In addition, the result showed a positive correlation between the dimensions of organizational climate and innovation.
(Ratten & Jones, 2020)	New challenges in sports entrepreneurship for value creation	The challenges for sports were the low level of innovation, artificial intelligence, the status of knowledge management and organizational learning, and capacity absorption in sports.

(Kerdpitak, Thongrawd, Maneesawangwong, & Junktanasombut, 2019)	What determines the innovation performance of sports SMEs in Thailand?	The results showed the performance of service innovation in sports SMEs could be effective for applying knowledge.
(Staley et al., 2021)	Returning to sport after a COVID-19 shutdown: understanding the challenges facing community sport clubs.	Challenges related to returning to a sports club after COVID-19 were volunteers, club culture, health protocols, membership, finances, facilities, competition, governance, and division of responsibility. These challenges were complex and provided some opportunities for innovation in sports clubs.
(Best, Sibson, & Morgan, 2021)	Technology adoption and use in not-for-profit sport: a case study of an Australian state sporting association	The results showed using technology in non-for-profit sports organizations had benefits, which included increases in productivity and communication. The key barriers to using these technologies were the costs of adoption decisions (financial and organizational) and the capabilities of staff and other stakeholders to utilize complex technologies.
(Plattfaut & Koch, 2021)	Preserving the legacy – Why do professional soccer clubs (not) adopt innovative process technologies? A grounded theory study	The study showed that the factors affecting innovation in professional sports were perceived ease of use, perceived market pull, and perceived supporter perception.
(Fenton, Parry, Chadwick, Guimarães, & Aeron, 2022)	Digital innovation in sports- Barriers and Opportunities for Branded Fitness Apps for Fans	The barriers to sporting brands to engage fans included perceived benefits, barriers to adoption, and overcoming borders.

Sports clubs during the COVID-19 pandemic

Today, sports have changed from a mere pastime to a thriving industry with a large volume of investments. Sports, as a growing industry with many opportunities, make up the bulk of the sports industry today (Kellett & Russell, 2009) and the broad economic aspects of the sports industry. Sports businesses include clubs, products, businesses, etc. Sports in the production and consumption of goods and services and the economic development of different societies have played a vital role. They have created many income-generating opportunities for individuals in various institutions and the media (Ratten & Ferreira, 2017).

Due to the prevalence of coronavirus worldwide, the performance of industries has changed a lot, and sport is one of those industries facing sudden changes because of the corona pandemic. The relationship between customers and the sports industry is not the same as in the past. Many sports competitions worldwide have stopped, and the closure of sports venues has created crises for the industry. The primary susceptible environments for transmitting the virus were environments in which physical interactions were more frequent (Bults, Beaujean, Richardus, & Voeten, 2015). Timpka (2020), in his research entitled "Sport and Corona", stated the critical issues in overcoming the crisis. Many countries dealing with the corona crisis in the sports industry have taken action; for example, the Swedish government has provided loans to support the affected areas (Timpka, 2020).

Given the current situation, sports businesses must adopt a procedure or system to minimize the damage caused by the recent crisis and enable them to survive (Barcelona, Wells, & Arthur-Banning, 2015). The United Nations has also suggested that in an organized sports ecosystem, manufacturers,

distributors, fans, businesses, owners, and players must find new and creative ways to reduce the harmful effects of COVID-19 in sports (Bas, Martin, Pollack, & Venne, 2020) .

Methodology

Sample and procedure

The present research was conducted using the Mix method. For data collecting in a qualitative approach, we used documents and 13 in-depth interviews. All interviews were recorded and transcribed verbatim, resulting in 15 pages. The interviews were performed from August to December 2020, varying from 30 to 60 minutes. The sampling method in the qualitative part was purposeful. The participants included sports businesses that had sports clubs in Iran because they knew more about the barriers to applying innovation in their companies. From the thematic analysis of interviews and according to the archival documents, three components and 18 initial codes were recognized. Through the literature and interviews, 18 items related to obstacles were identified. Interviews' transcripts were given to another researcher to reduce bias. In the qualitative research, the expert review was used for validity. The people involved in the discussions were those actively involved in sports clubs. In addition, long-term and comprehensive participation of data sources (interviews) was used. For reliability, the percentage agreement coefficient of the coding was used. The agreement percentage was over 80%. As a result, 18 initial codes were identified as the barriers to implementing innovation in sports clubs during the COVID-19 disease. In the quantitative part, a research-design questionnaire (five-point Likert scale) was developed. The face validity was confirmed and modified using the opinions of 10 sports management experts (sports management professors). To measure the reliability, 30 questionnaires were implemented as a pilot. The reliability based on Cronbach's alpha was 0.813. The questionnaire was redistributed according to the obtained reliability. Construct validity was also obtained based on Confirmatory Factor Analysis (CFA) by LISREL software (version 8.5). The statistical population was sports club owners in Chaharmahal and Bakhtiari province, including 452 people. In total, 380 questionnaires were distributed among sports businesses, and the respondents were selected using a simple random sampling technique. From the 298 questionnaires returned, 200 questionnaires were usable for data analysis.

Results

Table 2 showed the demographic characteristics of participants in the qualitative part.

Table 2. Demographic characteristics of participants in the qualitative part

	Gender	Work experience (years)	Education
1	Male	6	Master of Science, Sports Engineer
2	Male	6	Bachelor, Sports Sciences
3	Female	6	Master of Science, Sports Physiology
4	Male	10	Bachelor, Management
5	Male	8	Diploma
6	Male	6	Diploma
7	Male	5	Bachelor, Sports Sciences
8	Female	13	Master of Science, Nurse
9	Female	7	Master of Science, Motor Learning
10	Male	6	Diploma
11	Male	7	Bachelor, Mathematics
12	Male	10	Bachelor, Industrial Engineer
13	Male	11	Bachelor, Sports Sciences

Through transcripts of the interviewees' comments, undertaken by two authors independently, 18 initial codes were identified, as shown in Table 3.

Table 3. Initial codes for identifying the barriers to implementing the innovation in sports

Number	Initial codes	Themes
1	Lack of risk-taking by club managers to applying sports innovations	Individual barriers
2	Fear of customers dissatisfaction	
3	Lack of knowledge about using social platforms and media such as Instagram, Telegram, website, etc.	
4	Lack of commitment of club managers to using the innovation	
5	Resisting the acceptance of innovation by stakeholders	
6	Lack of knowledge or skills in using sports technologies (Electric Muscle Stimulation, sports applications, etc.)	
7	Lack of expert trainers to apply innovations	
8	Lack of competitiveness in sports clubs	Structural barriers
9	Less financial resources to use the sports innovations	
10	Incompatibility of innovation with market needs	
11	Time-consuming results of sports innovations to use it.	
12	Lack of training provided by training centers on how to take advantage of innovation opportunities in sports	
13	The financial cost and small profit of sports clubs	
14	Lack of awareness of the activities of competitors and other sports clubs to applying innovations	Environmental barriers
15	Creativity and innovation in sports of Iran	
16	Lack of monitoring of technological sports environment	
17	International sanctions to access the new sporting innovations	
18	Lack of sufficient knowledge about the market and customer	

As a result, the extracted model of the qualitative part is shown in Figure 1.

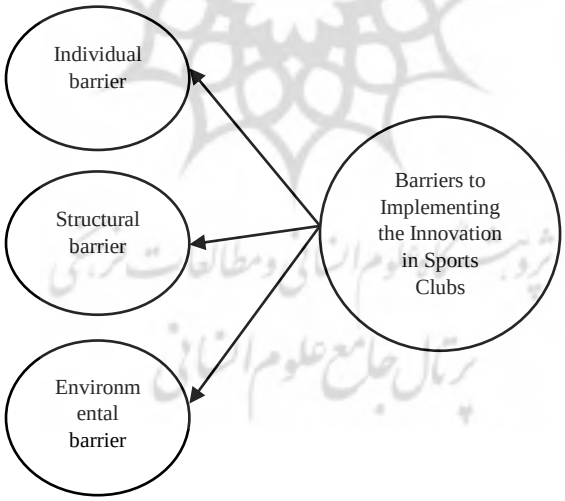

Figure 1. The concepts extracted from the qualitative part for barriers to implementing innovation in sports clubs.

In the quantitative approach, the minimum and maximum ages of the samples were 21 and 59 years, respectively, and the average age of the respondents was 37.56 years. 71.60% were men, and 24.80% were women. The minimum and maximum experience of the respondents was one year and 18 years, respectively, and the average experience of the respondents was 12 years. 71.2% were experts, 10.4% master, 5.6% diploma and 12.8% post-diploma.

As the concepts were extracted from existing literature and thematic analysis, and based on the normal distribution of data, confirmatory factor analysis (CFA) was performed in LISREL (8.5 version).

Using the maximum likelihood (ML) estimation, we ran a CFA model with all the constructs. Acceptable indicators for the model was obtained (Chi-square/df=1.78, CFI=0.93, NFI=0.92, RMSEA=0.063), all factors loading being significant and greater than 0.30. Indicators of reliability, AVE (Average Variance Extracted), CR, and correlations are shown in Table 4.

Table 4. Indicators of reliability, AVE, CR, and correlations

Constructs	AVE	CR	1	2	3
1. Individual barriers	0.510	0.732	1	0.89	0.78
2. Structural barriers	0.504	0.726	0.89	1	0.88
3. Environmental barriers	0.502	0.706	0.78	0.88	1

All correlations are significant at α=0.01 level (2- tailed)

Table 5 shows labels of latent variables in the model.

Table 5. Naming of latent variables in the model for measuring barriers to implementing the innovation in sports clubs

Concept	Latent variable	Name
Barriers to implementing innovation in sports	Individual barriers	BMI
	Structural barriers	BSI
	Environmental barriers	BZI

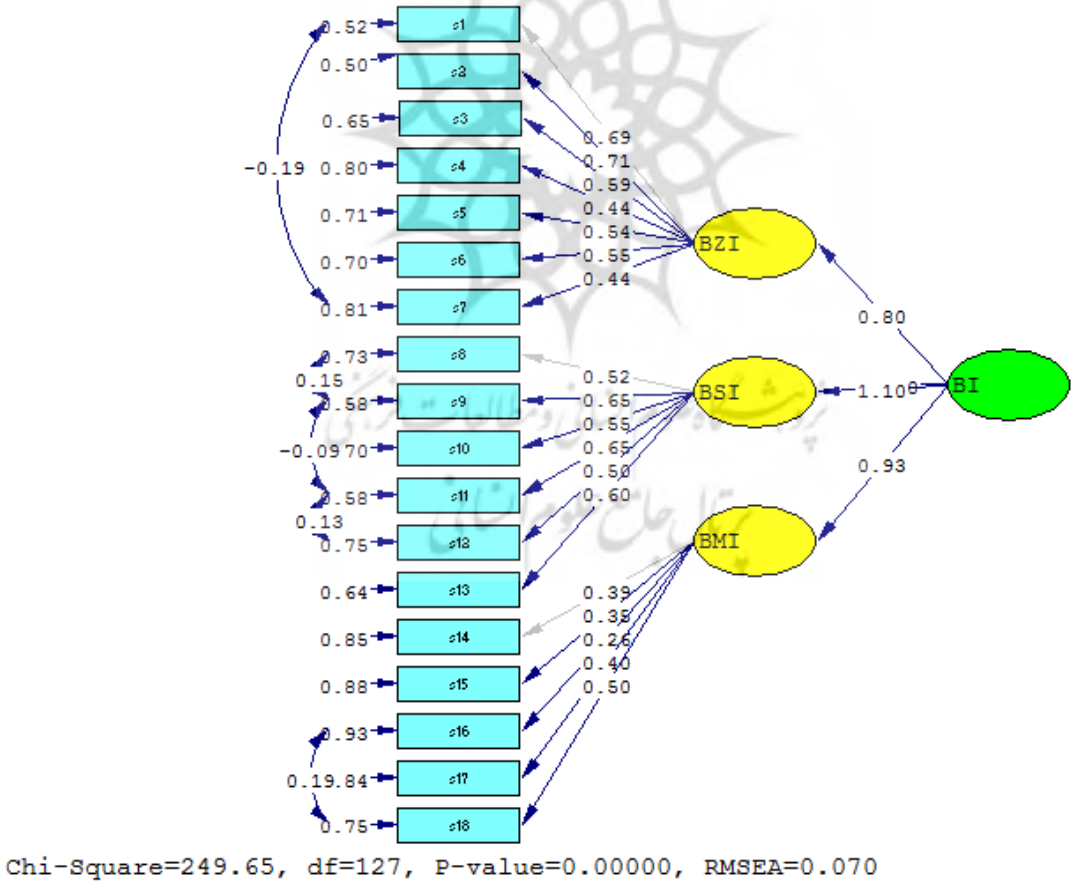

Figure 2. Factor analysis of barriers to implementation of innovation in sports clubs

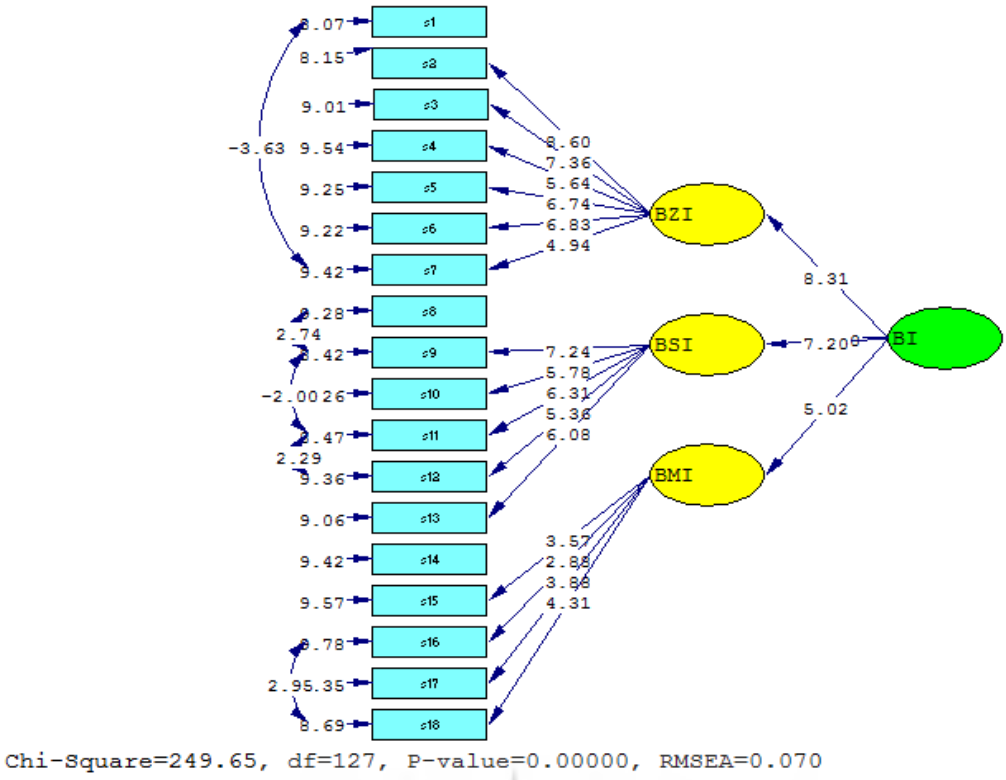

Figure 3. T-values of factor analysis of the obstacles to implementing innovation in sports clubs

Figures 2 and 3 showed factor analysis and t-value for barriers to implementing the innovation in sports clubs. All the factor loadings were higher than 0.3, and the t-values were significant at the 0.001 level (t-values higher than 1.96), which showed that the questions had adequate explanatory power. Means, standard deviation, and factor loads are shown in Table 6.

Table 6. Factors load and t-value for the elements of the questionnaire

questions	Elements	Factors load	t-value
q1	Lack of risk-taking by club managers to applying sports innovations	0.61	7.95
q2	Fear of customers dissatisfaction	0.79	8.60
q3	Lack of knowledge about using social platforms and media such as Instagram, Telegram, website, etc.	0.59	7.36
q4	Lack of commitment of club managers to using the innovation	0.44	5.64
q5	Resisting the acceptance of innovation by stakeholders	0.54	6.74
q6	Lack of knowledge or skills in using sports technologies (Electric Muscle Stimulation, sports applications, etc.)	0.55	6.83
q7	Lack of expert trainers to apply innovations	0.44	4.94
q8	Lack of competitiveness in sports clubs	0.52	5.31
q9	Less financial resources to use the sports innovations	0.65	7.24
q10	Incompatibility of innovation with market needs	0.55	5.78
q11	Time-consuming results of sports innovations to use it.	0.65	6.31

q12	Lack of training provided by training centers on how to take advantage of innovation opportunities in sports	0.50	5.36
q13	The financial cost and small profit of sports clubs	0.60	6.08
q14	Lack of awareness of the activities of competitors and other sports clubs to applying innovations	0.40	3.98
q15	Creativity and innovation in sports of Iran	0.35	3.57
q16	Lack of monitoring of technological sports environment	0.30	2.88
q17	International sanctions to access the new sporting innovations	0.40	3.88
q18	Lack of sufficient knowledge about the market and customer	0.50	4.31

Discussion and Conclusion

This study showed that barriers to implementing innovation in sports clubs included behavioral, structural, and contextual barriers. Innovation plays a vital role in sports. Innovation shapes new ways of playing, observing, and organizing sports through new ideas, change, and renewal. In addition, innovation affects the function of sports in society (Tjønndal, 2017).

The present study identified barriers to implementing innovation in sports clubs during the COVID-19 pandemic. Behavioral barriers included the lack of risk-taking of club managers in using sports innovations, fear of customer dissatisfaction, lack of knowledge of operating platforms and social media, such as Instagram, Telegram, and websites, and lack of commitment of club managers to use the inventions, resistance to acceptance of innovation by stakeholders, lack of knowledge/skills in using sports technologies, lack of knowledge and information about the best-used technologies in sports (Electrical Muscle Stimulation device, sports applications, etc.). Many studies pointed out the behavioral factors affecting businesses (Fenton et al., 2022; Omar et al., 2016). Entrepreneurial behavior and behavioral elements, including risk-taking, are necessary to avoid failure. Indeed, competition in sports emphasizes that sports organizations need to grow in risk-taking (Ciletti, 2015). In the COVID-19 pandemic era, fear of disease and the existence of unstable situations added to barriers to behavior. Other studies pointed out individual elements, including knowledge, political and managerial capacity affecting businesses (Kerdpitak et al., 2019; Newell & Swan, 1995; Omar et al., 2016; Ratten, 2020a; Wemmer & Koenigstorfer, 2016; Winand & Hoeber, 2017).

Structural barriers included the lack of trained coaches in applying innovations, lack of competitiveness in sports clubs, low financial resources in using sports innovations, non-compliance with market needs, time-consuming results and efficiency of sports innovations use, and lack of training. We can observe the evidence of problems and challenges in the sports businesses in Iran at the structural level, as demonstrated in studies (Escamilla-Fajardo et al., 2019; Newell & Swan, 1995; Omar et al., 2016; Ratten, 2020a; Winand & Hoeber, 2017). It was from educational centers on how to take advantage of opportunities for innovation in sports. In this regard, programs that provide knowledge for innovative entrepreneurs to start and run a business and equip leadership and the community can present creative performance (Korsching & Allen, 2004). The structural situation, including the inefficiency of the government in dealing with the recent crisis, especially in sports, caused irreparable damage to the sports clubs. Thus, it seems all businesses and sports clubs should have crisis management to minimize financial and infrastructural damage in times of crisis. However, a significant part of planning and providing facilities to sports businesses is known as the part of government activities, where there was no practical and coherent planning, even after several months of the recent crisis.

Environmental barriers to implementing the innovation in sports clubs included a lack of awareness of the activities of competitors and other sports clubs in the use of inventions, the emergence of creativity and innovation in sports in Iran, a lack of monitoring of the technological sports environment, and international sanctions. Economic factors and the macroeconomic climate seem to affect investment in sports innovations. Instability in the economy is a significant problem in societies, as the lack of money and the distribution of capital hinders the development of sports, leisure, and facilities (Karlis, 2006). The economics of sports clubs are not formed in a vacuum and are highly dependent on the economy and business environment. Environmental barriers were pointed out in Ratten's (2020b) research. The environmental situations, including economic and social crises such as the COVID-19 pandemic and economic sanctions, affect service businesses like sports clubs. For this reason, we should consider future concerns. According to the results of the World Bank Report, one of the reasons for long-term unemployment in Iran is the lack of innovation in the business environment (Ratten & Nanere, 2020). Based on the experts of the World Bank, Iran will be able to take its position from the current unfavorable situation only by making reforms in the indicators related to the business situations (obtaining licenses, supporting investors, employing labor, registering ownership, and dissolving activities). Therefore, a good business environment and infrastructure can be a practical support for business activities and cause the growth of the essential factor of production, namely people and their spiritual capital, as well as facilitate the distribution of resources and the world of information. These promote competitiveness and encourage human resources to do business and create entrepreneurship.

Managerial Implication

The findings have important practical implications for entrepreneurs, particularly sports clubs. First, for behavioral barriers, this research suggests providing sports entrepreneurs with educational training. In addition, holding knowledge-enhancing approaches for sports entrepreneurs and holding exhibitions and festivals of innovation in the industry by sports organizations and sports managers can be some suggestions.

Second, the findings acknowledge the structural elements of applying innovation in sports clubs are essential in supporting infrastructure. Facilitating laws to protect sports entrepreneurs to easier access to technology and using new technologies in sports are advised.

Finally, perhaps the most critical implication of this study relates to environmental barriers. Participating in exhibitions and festivals of innovation in the sports industry and holding such shows could help to create an innovative climate. In addition, holding seminars and gatherings of entrepreneurs and sports managers to promote and familiarize entrepreneurs with innovation opportunities in sports could be another suggestion. After the COVID-19 pandemic, it seems consideration of crisis management, sports knowledge, and technology through participating in the workshop would be necessary to improve the skills and techniques, and abilities of managers for encountering the crisis.

We would also like to show our gratitude to all participants for sharing their pearls of wisdom with us during the course of this research.

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