

# THE INFLUENCE OF ORGANIZATIONAL INNOVATION CLIMATE, CORPORATE CULTURE AND TEAM SYNERGY ON THE INNOVATIVE LEADERSHIP OF SPORTS COACHES IN CHINESE UNIVERSITY

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## Abstract

This research focuses on the influence of organizational innovation climate, corporate culture, and team synergy on the innovative leadership of sports instructors at a Chinese university. Sample sampling was used to select from the university population using a variety of probability-based random selection methods. The sample size was approximately 50 undergraduate sports instructors per facility, with ten percent of all professors chosen for in-depth interviews in a qualitative research study. The selection procedure included criteria evaluation, linear structural connection analysis, and free parameter estimations. The sample size was determined by a linear structural connection analysis and the number of free parameter estimations. A total of 375 participants were used in the study, with an acceptable deviation of five percent. Qualitative research included 20 sports professors to find out how the university's innovative organizations affect the university's growth and culture, how they help develop innovative leadership among faculty and athletes, and how instructors and athletes have innovative leadership. The findings suggest that team synergy plays a crucial role in the relationship between organizational innovation climate and innovation leadership. This highlights the importance of fostering a collaborative and supportive team environment to promote innovation within an organization. Corporate culture also has a significant correlation with innovation leadership, indicating that a culture that values creativity and risk-taking can facilitate effective leadership in driving innovation. It is worth noting that these factors account for 75.084% of the total variance, indicating their strong influence on organizational innovation. Team synergy is critical for facilitating the relationship between organizational innovation climate, corporate culture, and innovation leadership, with correlation coefficients of 0.565. According to qualitative research, team synergy is critical in facilitating the relationship between organizational innovation climate and innovation leadership. Organizations should prioritize efforts to cultivate team synergy, foster a supportive corporate culture, and develop effective innovation leadership.

**Keywords:** Organization Innovation Climate, Corporate Culture, Team Synergy, Innovative Leadership.

## 1. INTRODUCTION

The knowledge economy era has higher requirements for the level of competitive sports, and the innovation ability of coaches has become an important influencing factor and a basic guarantee for the improvement of the level of competitive sports. This is all taking place within the context of the reform of China's competitive sports system, which is currently underway. But under the old system, coaches' ability to be creative has become a barrier to the globalization, professionalization, and marketing of competitive sports. This, in turn, keeps

competitive sports from growing in China. In modern times, Chinese athletes have accomplished a great deal in their chosen sports. It has investigated the development model of Chinese sports, implemented the Olympic plan in a consistent manner, insisted on the promotion of development through reform, and consistently improved the sports management system and operation mechanism. The "spirit of women's volleyball" and the "spirit of Chinese sports" that have been cultivated over the years by countless generations of athletes have been a significant contributor to China's advancement on a spiritual level. Since Xu Haifeng's first Olympic gold medal in 1984, Chinese athletes have won a total of 15 gold medals, placing them third in the world in terms of gold medals won at the Olympic Games. The 24th Olympic Winter Games will be held in 2022. The focus and investment that this nation has placed on the growth of competitive sports are inseparable from the accomplishment of these outcomes. This is true despite the fact that the majority of coaches and athletes have worked extremely hard to attain them. Scholars are in agreement that a strong guarantee for the sustainable, comprehensive, coordinated, healthy, and orderly development of competitive sports in China is to adhere to and improve the national system during the reform, as well as explore a sports development model with Chinese characteristics that is compatible with China's economic, social, and cultural requirements (Jia, 2017). The original sports management system and operation mechanism in China have gradually shown a number of conflicts and challenges that are inappropriate for the country's continued social and economic development as a result of China's change in its economic management system (Jia, 2017).

## 2. LITERATURE REVIEW

### 2.1 Organizational innovation climate and Innovative leadership

Tu surveyed organizations in many industries worldwide and found that their innovation cultures share risk-taking, tolerance of failure, information disclosure, a questioning attitude, and resource sharing. Next, a study of the CEOs of 29 US high-tech businesses combined these components into two dimensions: fostering creativity (tolerating failure, supporting risk-taking, and questioning spirit) and improving

There are two forms of inventive ideas: information disclosure and resource sharing. Team awareness, resource sharing, self-management, spiritual inspiration, daring to confront, and organization are eight elements of creative corporate culture. 6 elements boost inventiveness (Wu & Liu, 2007; Xu, 2012).

An innovation climate is the subjective perception of employees about organizational policies, management behaviors, organizational processes, and other innovation support elements. A relatively high level of debate and a low level of conflict contribute to a climate of innovation and creativity in the organization. A culture of innovation can improve communication, yet a lack of communication leads to disinformation, misunderstandings, resistance, resentment, and failure. Each company has a diverse group for interpersonal interaction of communication leads to disinformation, misunderstandings, resistance, resentment, and failure. Each company has a diverse group for interpersonal interaction. The organization's information chain and staff communication will be disrupted if leaders and subordinates don't communicate. Alienation

prevents teamwork (Dodge et al., 2017; Duygulu et al, 2015) Existing incentives and fresh ideas might be responsive when employees learn from each other. Open and honest communication among individuals, groups, and departments promotes creativity in a company. Openness, fairness, knowledge sharing, and effective communication foster creativity in an organization. An organization with a culture of trust and open communication will foster creativity (Ma, 2015). People will invest in a firm if they trust it to protect their creativity and innovation. Thus, innovation requires clear, motivating communication. It may be discussed internally and with personnel to encourage strategy adoption and operations innovation.

## **2.2 Team Synergy and Innovative leadership**

Team synergy begins and ends with creating a mindful atmosphere in which people can connect and develop. Synergy is built on common values, communication, and a clear sense of purpose. Setting goals and objectives is critical, and having a place for them to reside, be reviewed, and revised results in productive and motivated team members. When a company participates in mergers and acquisitions (M&A), it is doing so to improve its financial performance for the benefit of its shareholders. A merger of two businesses can result in the formation of a single entity capable of generating more revenue than either of the original businesses could have generated on their own, or the formation of a single entity capable of eliminating or streamlining redundant processes, resulting in significant cost savings. Whether or if there is potential for synergy is considered throughout the mergers and acquisitions process. When two companies effectively integrate their operations in order to generate greater economies of scale or efficiency, the ensuing merger is known as a synergy merge. Shareholders benefit if a company's post-merger share price is greater than it was before the merger due to the synergistic impact of the agreement. The predicted synergy achieved by the merger is due to a variety of factors, including increased revenues, integrated employees and technology, and cost savings (Lecturer, 2018; Ma, 2015).

## **2.3 Corporate Cultures and Innovative Leadership**

Corporate cultures that are strong improve business performance by facilitating internal behavioral uniformity. In contexts prone to volatility, the benefits of strong cultures on reliability are lost. Rohit Deshpandé and John U. Farley conducted research on the impact of strong corporate cultures on the degree to which business performance differs. Wang & Li (2021) did a study on the potential links that may exist between the corporate cultures of Singaporean enterprises and the success of their organizations. Culture has been discovered to have an impact on a wide range of organizational processes and performance. The commercialization of radical discoveries has a direct impact on a company's financial performance. Harwiki, (2016) study whether or not the promotion of corporate culture has an effect on the success of Chinese enterprises in terms of market value, financial performance, and innovation output. He uncovered consistent evidence indicating that corporate culture promotion has a negative association with a company's market value, a positive link with the output of inventions, and no substantial relationship with a company's financial performance. Furthermore, the presence of small businesses and firms in regions with lower levels of economic development exacerbates the impact of corporate culture promotion on firm market

value. Furthermore, we discover that promoting certain aspects of corporate culture, such as innovation culture and integrity culture, is unrelated to the company's value or financial performance. Nonetheless, there is a positive relationship between innovation culture promotion and innovation output (Rabia et al., 2019).

### 3. METHODOLOGY

This study used a mixed research approach combining qualitative and quantitative research. Qualitative analysis was conducted using content analysis for the study, and quantitative analysis was conducted using structural equation modeling. The qualitative analysis is to support the quantitative analysis and ultimately to obtain reliable conclusions. The target population of the study was sport instructors and sports team leader in undergraduate universities in Shanghai Province. This study selected universities from municipal 20 places and private 6 places. The questionnaire content was developed through in-depth interviews and literature review, and a pretest and large sample test were used to survey the sport instructors of undergraduate universities in Shanghai Province, the study was conducted in higher education institutions in Shanghai Province, with a total of instructors in nine sports: nine sports: soccer, basketball, volleyball, tennis, badminton, track and field, aerobics, wushu, and table tennis. This study is based on a questionnaire scale that was prepared by and the research design organizational innovation scale. The measurement items of the factors designed in this study were selected and adjusted to develop scale questions for college coaches.

### 4. RESULTS

#### 4.1 Descriptive statistical analysis of sample variables

Four variables and 12 dimensions were used in the relationship model proposed in this study. All scales used Likert scale of 5. The results of descriptive statistics for the 4 variables and 12 dimensions are shown in Table 4.1

**Table 4.1: Descriptive statistics of measurement (N=375)**

Dimension	Code	Mean	Std Deviation	Skewness		Kurtosis	
		Statistical	Std.Error	Statistic	Std.Error	Statistic	Std.Error
Organizational innovation climate	OIC1	3.397	1.028	-.394	.064	-.846	.128
Resource support	OIC2	3.590	.904	-.633	.064	-.347	.128
	OIC3	3.451	.953	-.380	.064	-.728	.128
Colleague support	OIC4	3.793	.816	-.805	.064	-.131	.128
	OIC5	3.581	.863	-.541	.064	-.556	.128
	OIC6	3.716	.816	-.634	.064	-.041	.128
	OIC7	3.181	.910	.043	.064	-.738	.128
Supervisor support	OIC8	3.178	.970	-.069	.064	-1.058	.128
	OIC9	3.221	.793	-.525	.064	-.654	.128
The team synergy	TS1	3.535	.832	-.723	.064	-.140	.128
Communication	TS2	3.511	.818	-.745	.064	.461	.128

Dimension	Code	Mean		Std Deviation		Skewness		Kurtosis	
		Statistical	Std.Error	Statistic	Std.Error	Statistic	Std.Error		
	TS3	3.480	.803	-.756	.064	-.591	.128		
	TS4	3.697	.684	-1.009	.064	.346	.128		
Cooperation	TS5	3.274	.681	-.448	.064	-.553	.128		
	TS6	3.523	.728	-.928	.064	.653	.128		
	TS7	3.716	.816	-.634	.064	-.041	.128		
Trust	TS8	3.181	.910	.043	.064	-.738	.128		
	TS9	3.178	.970	-.069	.064	-1.058	.128		
	TS10	3.221	.793	-.525	.064	-.654	.128		
The corporate culture	CC1	3.361	.853	-.475	.064	.026	.128		
Self-image	CC2	3.535	.832	-.723	.064	-.140	.128		
	CC3	3.511	.818	-.745	.064	.461	.128		
Inner working	CC4	3.480	.803	-.756	.064	-.591	.128		
	CC5	3.397	1.028	-.394	.064	-.846	.128		
	CC6	3.590	.904	-.633	.064	-.347	.128		
Relationships with the outside	CC7	3.451	.953	-.380	.064	-.728	.128		
	CC8	3.793	.816	-.805	.064	-.131	.128		
Future expectation	CC9	3.274	.681	-.448	.064	-.553	.128		
	CC10	3.523	.728	-.928	.064	.653	.128		
The Innovative leadership	IL1	3.821	.940	-.079	.064	-1.043	.128		
Innovation creation	IL2	3.811	.916	-.274	.064	-.748	.128		
	IL3	3.960	1.050	-.228	.064	-.777	.128		
	IL4	3.711	1.029	-.268	.064	-.777	.128		
	IL5	3.802	.926	-.940	.064	-.748	.128		
Integration of innovative	IL6	3.73	1.029	-.268	.064	-.748	.128		
	IL7	3.691	1.050	-.228	.064	-.778	.128		
	IL8	3.745	.969	-.940	.064	-.932	.128		
	IL9	3.781	.970	-.203	.064	-.788	.128		
	IL10	3.834	.877	.090	.064	-1.228	.128		

The mean values of the two divisions of the organizational innovation climate dimension (colleague support, 3.793, and trust in knowledge transfer, 3.716) are in the areas of corporate culture (relationships with the outside world, 3.793) and team synergy of trust in knowledge transfer (3.716), according to Table 4.6. The averages for innovative leadership in the creation and implementation categories are 3.960 and 3.834, respectively.

The innovation climate dimension is critical to the success of any organization. Support from colleagues and trust in knowledge transfer are two important factors that contribute to a positive innovation climate. These two factors are closely related to an organization's corporate culture and team synergy. A company with strong external relationships is more likely to have a supportive and collaborative work environment that fosters innovation.

Furthermore, team synergy is critical for fostering trust among colleagues, which is required for successful knowledge transfer. Innovative leadership is also essential for stimulating

creativity and effectively implementing new ideas. Leaders who excel at both idea generation and execution are more likely to inspire their teams to think outside the box and take risks. Finally, in today's rapidly changing business landscape, organizations that prioritize colleague support, trust in knowledge transfer, corporate culture, team synergy, and innovative leadership are more likely to succeed. It is well known that team synergy has a positive impact on the relationship between organizational innovation climate, corporate culture, and innovative leadership. They are all in the high mean stage range, according to the Likert scale. This emphasizes the importance of fostering an innovative culture within organizations as well as the role of coaches in promoting innovative leadership. It also implies that team synergy is critical to improving the organizational innovation climate.

According to the survey results, organizations with a high mean stage range are more likely to foster an innovative culture. This is due to the fact that such organizations value creativity and encourage employees to think outside the box. Coaches play an important role in promoting innovative leadership by advising and supporting leaders who want to implement new ideas. They assist leaders in identifying areas for improvement and developing strategies for overcoming challenges. Furthermore, team synergy is critical for improving the organizational innovation climate. When team members work well together, they can generate more innovative ideas and bring them to fruition more quickly. As a result, organizations must invest in team-building activities that encourage collaboration and communication among team members. To summarize, fostering an innovative culture requires a collaborative effort from all stakeholders within an organization, including leaders, coaches, and team members.

**Table 4.2: convergent validity index of innovation leadership scale**

	Estimate	S.E.	C.R.	P	CR	AVE
<b>OIC1</b>	.813					
<b>OIC2</b>	.763	.054	16.197	***	0.816	0.597
<b>OIC3</b>	.740	.050	15.783	***		
<b>OIC4</b>	.801					
<b>OIC5</b>	.786	.050	17.770	***	0.853	0.660
<b>OIC6</b>	.851	.051	19.030	***		
<b>OIC7</b>	.800					
<b>OIC8</b>	.780	.063	16.766	***	0.827	0.614
<b>OIC9</b>	.772	.059	16.637	***		
<b>IL1</b>	.824					
<b>IL2</b>	.750	.048	17.884	***		
<b>IL3</b>	.751	.046	17.871	***	0.883	0.602
<b>IL4</b>	.761	.047	18.319	***		
<b>IL5</b>	.801	.045	18.319	***		
<b>IL6</b>	.780					
<b>IL7</b>	.734	.056	16.275	***		
<b>IL8</b>	.762	.066	16.978	***	0.870	0.572
<b>IL9</b>	.774	.066	17.280	***		
<b>IL10</b>	.732	.059	16.243	***		
<b>TS1</b>	.805					
<b>TS2</b>	.765	.062	15.625	***	0.801	0.574



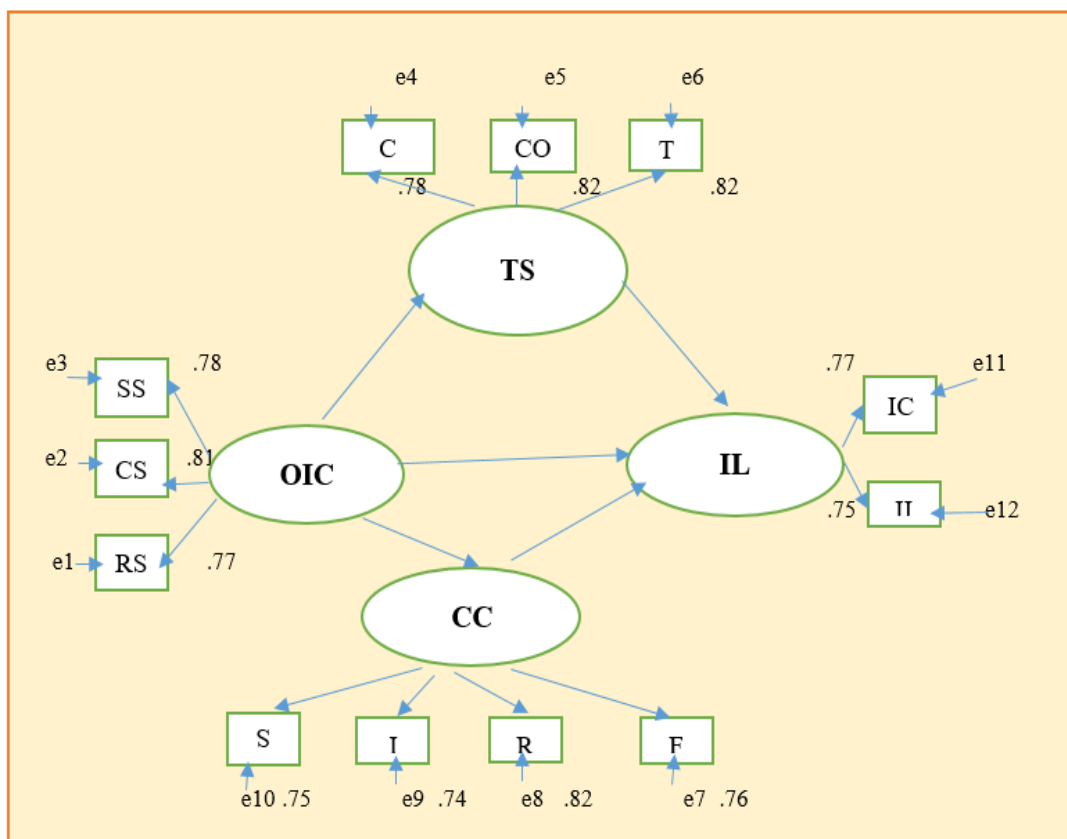
TS3	.700	.055	14.531	***		
TS4	.805					
TS5	.885	.060	19.977	***	0.863	0.678
TS6	.780	.054	18.005	***		
TS7	.820					
TS8	.834	.059	18.626	***	0.841	0.638
TS9	.741	.056	16.707	***		
TS10	.822	.049	19.125	***		
CC1	.756					
CC2	.740	.057	15.379	***	0.831	0.552
CC3	.750	.054	15.508	***		
CC4	.753					
CC5	.700	.058	14.195	***	0.818	0.530
CC6	.770	.064	15.534	***		
CC7	.834					
CC8	.810	.049	19.644	***	0.873	0.632
CC9	.751			***		
CC10	.784	.049	18.926	***	0.863	0.622

Goodness-of-fit index,  $\chi^2/df=2.986$  GFI=0.958 AGFI=0.932 NFI=0.960 CFI=0.973 IFI=0.973 RMSEA=0.064

As shown in the figure and table, the fitting indexes of the innovation leadership scale of coaches  $\chi^2/df=2.986$ , GFI = 0.958, AGFI = 0.932, NFI = 0.960, CFI = 0.973, and RMSEA = 0.064 were all within a good numerical range, indicating that the model has a good fitting degree. Furthermore, the AVE value of the factor was greater than 0.5, indicating that the coaches' innovation leadership scale had high convergent validity. These results suggest that the innovation leadership scale for coaches is a reliable and valid measure for assessing innovation leadership in coaching. Future studies can use this scale to investigate the relationship between innovation leadership and coaching effectiveness. These findings indicate that coaches' innovation leadership scale is a reliable and valid measure of their leadership abilities. More research is needed, however, to determine the generalizability of these findings to other populations and contexts.

### Structural equation model fit test

The main path results of the model are shown in the figure. According to the structural equation model adaptation test index, the ratio NC of chi-square degrees of freedom should be between 1-3. Residual mean square error of approximation (RMSEA) values should be between 0.05-0.08, if less than 0.05, it means the approximation is very good. The GFI value of fitness index is generally consider be greater than 0.9, and above 0.8 is acceptable. CFI value of value-added fitness index should be greater than 0.9; The TLI value of non-standard adaptation index should be above 0.9. It is generally believed that the number of samples should be more than 200 (Hou Jietai, Wen Zhonglin, 2005; Minglong Wu, 2012)



**Figure 4.1: Structural Equation Modeling**

Source: Data and information from this research

According to the path analysis, organizational innovation climate had a significant positive effect on team synergy. Corporate culture benefited significantly from organizational innovation climate. Team synergy has a significant positive impact on leadership in innovation. Coaches' corporate culture has a significant positive impact on innovation leadership. The impact of organizational innovation climate on innovation leadership is significant. Therefore, it is important for companies to prioritize building a strong corporate culture that fosters innovation in order to develop effective innovation leaders. This can lead to a competitive advantage in the sport and long-term success for the sport at the university. This suggests that the model fits well with the data and provides a good representation of the relationships between the variables. However, further analysis may be needed to confirm the validity of the model.

In this study, the software was used to analyze the path of structural equation model, so as to obtain the path coefficient value of structural equation model and C.R. The path coefficient reflects the influence relationship and degree between variables. The Critical Ratio (C.R.) can judge whether the regression coefficient is significant or not. It is generally believed that C.R. If the value is greater than or equal to 1.96, it indicates that there is a significant difference at



the 0.05 significance level (Hou Jietai, Wen Zhonglin, 2005). The standardized regression coefficients and variance parameter estimates of the structural equation model in this study are shown in the table.

**Table 4.3: Path coefficient test of structural equation model**

			Estimate	S.E.	C.R.	P.
Team synergy	←-----	Organization innovation	.337	.059	5.376	***
Corporate culture	←-----	Organization innovation	.528	.061	8.097	***
Innovation leadership	←-----	Team synergy	.440	.062	7.170	***
Innovation leadership	←-----	Corporate culture	.415	.059	6.856	***
Innovation leadership	←-----	Organization innovation	.445	.053	8.045	***

Note: \*\*\* indicates P<0.00

Source: Data and information from this research

The structural equation model's final fitting results are shown in the table 4.29, and there are five paths: "team synergy-----organizational innovation climate path coefficient 0.337 (p< 0.001), and "innovative leadership-----corporate culture path coefficient 0.415 (p< 0.001). All of the paths performed admirably. These findings suggest that team synergy and innovative leadership are crucial for promoting organizational innovation climate and shaping corporate culture. Future research could explore how these factors can be cultivated and leveraged to enhance organizational performance.

## 5. CONCLUSION

The path coefficient of team synergy between organizational innovation climate and innovation leadership is 0.231, indicating that team synergy has a significant mediating effect between organizational innovation climate and innovation leadership. This suggests that the presence of team synergy partially explains the relationship between organizational innovation climate and innovation leadership. It also implies that enhancing team synergy may be an effective strategy for improving both organizational innovation climate and innovation leadership. The mediating effect of corporate culture, organizational innovation climate, and innovative leadership is 0.185, indicating that team synergy mediates the effect of corporate culture, organizational innovation climate, and innovative leadership. These findings suggest that team synergy plays a crucial role in facilitating the relationship between organizational innovation climate and innovation leadership. It highlights the importance of fostering a collaborative and innovative team environment to enhance organizational performance. Combining the results of the statistical analysis of the data mentioned above, the hypothesis validation of this study is as follows.

The hypothesis has been created using the conceptual framework in the research. These are four hypotheses.

H1: Organizational innovation climate has a significant positive influence on coaches' innovative leadership.

The path coefficient of organizational innovation climate on innovative leadership is 0.336, which corresponds to the significance  $P < 0.001$ . Therefore, Organizational innovation climate has a significant positive influence on coaches' innovative leadership.

H2: Corporate culture has a significant positive influence on coaches' innovative leadership.

The path coefficient of organization innovation---corporate culture---innovative leadership is 0.185, corresponding to a significant  $P < 0.001$ . Therefore, corporate culture has a significant positive influence on coaches' innovative leadership.

H3: Team synergy has a significant positive influence on coaches' innovative leadership.

The path coefficient of organization innovation---team synergy---innovative leadership is 0.231, corresponding to a significant  $P < 0.001$ . Therefore, team synergy has a significant positive influence on coaches' innovative leadership.

H4: Team synergy plays a mediating role in the influence of organizational innovation climate, corporate culture on coaches' innovative leadership.

In this study, data is gathered through in-depth interviews, and the data is analyzed using content analysis, as shown below: The findings of the study reveal that there are several themes that emerged from the data, including but not limited to the importance of communication, the role of technology, and the impact of cultural factors on decision-making. These themes provide insights into the experiences and perspectives of the participants regarding the topic under investigation. Sports instructors and athletes (sportspersons) discussed Organizational innovation climate, team synergy, corporate culture, and coaches' innovative leadership. They also discussed the factors influencing innovative leadership, the relationship between Organizational innovation climate and innovative leadership, and the rationality of the model proposed. Furthermore, the participants shared their experiences and success stories in implementing innovative practices in sports organizations. They also explored the challenges and barriers that hinder the adoption of innovative leadership in sports organizations and proposed strategies to overcome them.

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