http://dx.doi.org/10.18623/rvd.v23.6110

# THE ROLE OF COMPETITIVE SPORTS MANAGEMENT IN DRIVING INNOVATIVE DEVELOPMENT OF COLLEGE SPORTS EVENTS: A STUDY IN JIANGXI PROVINCE, CHINA

## *O PAPEL DA GESTÃO DO ESPORTE COMPETITIVO NA PROMOÇÃO DO DESENVOLVIMENTO INOVADOR DE EVENTOS ESPORTIVOS UNIVERSITÁRIOS: UM ESTUDO NA PROVÍNCIA DE JIANGXI, CHINA*

Article received on: 12/2/2025
Article accepted on: 3/16/2026

**Sheng Liu***
*Sports Management, College of Innovation and Management, Suan Sunandha Rajabhat University, Bangkok, Thailand
parinya.kw@ssru.ac.th

**Parinya Kwanmuangvanich***
*Sports Management, College of Innovation and Management, Suan Sunandha Rajabhat University, Bangkok, Thailand
parinya.kw@ssru.ac.th

The authors declare that there is no conflict of interest

**Abstract**
With the booming development of China's sports industry, college sports events have become a key link in promoting talent cultivation and regional economic development, yet their innovative development is generally constrained by insufficient management mechanisms, resource allocation and marketization. This study aimed to take Jiangxi Province as the empirical field, constructed a comprehensive model integrating the three main actors of universities, society and the market, and explored how these key stakeholders influence the innovative development of university sports events through the core mechanism of "competitive sports management". In this study, a quantitative approach was adopted to analyze the questionnaire data of 400 university sports professionals in Jiangxi Province through partial least squares structural equation modeling (PLS-SEM). The results show that university subjects, social subjects and market subjects all have a significant positive influence on competitive sport management; there is a significant direct influence of university subjects and social subjects on event innovation and development, while the influence of market subjects is fully mediated by competitive sport management; and there is a significant bidirectional interaction between competitive sport management and event innovation and development. This study not only provides empirical evidence for understanding the innovation mechanism of college sports events in specific regions of China,

***Resumo***
*Com o rápido crescimento da indústria esportiva chinesa, os eventos esportivos universitários tornaram-se um elo fundamental na promoção da formação de talentos e do desenvolvimento econômico regional; no entanto, seu desenvolvimento inovador é geralmente limitado por mecanismos de gestão, alocação de recursos e comercialização insuficientes. Este estudo teve como objetivo tomar a província de Jiangxi como campo empírico, construiu um modelo abrangente que integra os três principais atores — universidades, sociedade e mercado — e explorou como essas partes interessadas fundamentais influenciam o desenvolvimento inovador dos eventos esportivos universitários por meio do mecanismo central da "gestão do esporte competitivo". Neste estudo, foi adotada uma abordagem quantitativa para analisar os dados de um questionário respondido por 400 profissionais do esporte universitário na província de Jiangxi, utilizando a modelagem de equações estruturais por mínimos quadrados parciais (PLS-SEM). Os resultados mostram que os atores universitários, sociais e de mercado têm, todos, uma influência positiva significativa na gestão do esporte competitivo; há uma influência direta significativa dos atores universitários e sociais na inovação e no desenvolvimento de eventos, enquanto a influência dos atores de mercado é totalmente mediada pela gestão do esporte competitivo; e há uma interação bidirecional significativa entre a gestão do esporte competitivo e a*

but also provides decision-making references for college administrators and policy makers.

**Keywords:** Competitive Sports Management. Sports Event Innovation Development. University Subject. Social Subject. Market Subject. PLS-SEM.

*inovação e o desenvolvimento de eventos. Este estudo não apenas fornece evidências empíricas para a compreensão do mecanismo de inovação de eventos esportivos universitários em regiões específicas da China, mas também oferece referências para a tomada de decisões por parte de administradores universitários e formuladores de políticas.*

***Palavras-chave:*** *Gestão de Esportes Competitivos. Desenvolvimento da Inovação em Eventos Esportivos. Assunto Universitário. Assunto Social. Assunto de Mercado. PLS-SEM.*

## 1 INTRODUCTION

Globally, as an important platform for cultivating sports talents, spreading campus culture and promoting the development of sports industry, the management and innovation of college sports events are increasingly attracting extensive attention in both academic and practical circles. Especially in China, as the state elevates the sports industry to a strategic level and promulgates a series of programmatic documents such as Several Opinions on Accelerating the Development of the Sports Industry and Promoting Sports Consumption, the market of college sports events has shown unprecedented potential and value.

Against this background, the innovative development of college sports events in China has ushered in a historic opportunity. However, despite the remarkable achievements at the national level, it still faces many challenges in the practice of local colleges and universities, and the level of development shows obvious regional imbalance (Yu, 2020). Especially in the central region represented by Jiangxi Province, the huge potential of sports events in colleges and universities is far from being fully tapped. The existing event management model generally has core problems such as insufficient resource allocation, imperfect management mechanism and low degree of marketization. The organization of many university events is still deeply rooted in the traditional administrative-led model, the source of funding is overly dependent on the government and school grants, and the ability of market-oriented operation is weak, which greatly restricts the scale, quality and sustainability of the event. This situation not only restricts

the quality and influence of the events themselves, but also limits the sustainable development of university sports, making it difficult for them to play a more active role in regional economic and social development.

Existing related studies provide a theoretical basis for us to understand this phenomenon. Scholars have generally discussed the function and value of college sports events, analyzed the successful experience of mature business models such as the NCAA in the United States and its inspiration for China, and pointed out the importance of integrating social resources through the mode of "school-enterprise cooperation". However, most of the previous studies have focused on macro-level policy analysis or on economically developed regions, and there is a lack of in-depth, systematic discussions based on empirical data for the central region of China, especially for Jiangxi Province, which is a representative region. In addition, although the existing literature mentions the roles of universities, society, the market and other multiple subjects, there is still a lack of an integrated theoretical framework and empirical testing of how these subjects interact with each other through the core intermediary mechanism of "competitive sports management" and jointly influence the specific path and internal logic of the innovative development of events (Zhang, Li, & Xu, 2018). Li, & Xu, 2018).

In summary, this study aims to clarify the influencing factors of competitive sports management on the innovative development of university sports, taking Jiangxi Province in China as the empirical analysis sample area, and constructing an integrated analytical framework involving university subjects, social subjects, and market subjects. The core purpose is to deeply explore how these three key stakeholders, under the specific regional background, influence the system, structure, and brand building of competitive sports management, thereby promoting the innovative development of university sports events in economic, social, educational, and cultural value aspects. Through the empirical analysis of this complex influence mechanism, this study not only provides new theoretical perspectives and empirical support for the application of sports management theory - especially in the context of regionalization and multi-subject governance - but also offers precise and feasible management strategies and policy recommendations for Jiangxi Province and other regions in China facing similar development challenges, thereby promoting the overall innovation and high-quality development of university sports events in China. At the same time, it provides targeted and operational management

strategy and policy recommendation models for Jiangxi Province and other regions in China facing similar development challenges, promoting the comprehensive innovation and high-quality development of university sports events.

## 2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1 Theoretical foundation

This study integrates the core perspectives of Resource-Based Theory (RBV), Stakeholder Theory (ST), and Social Accounting Matrix (SAM) to construct a comprehensive analytical framework to systematically explore the relationships among the influencing factors. Resource-based theory (RBV) suggests that an organization's unique, inimitable resources are the fundamental source of its competitive advantage (Maltese & Veran, 2008). In this study, the facilities, talents, and management system owned by the university body are regarded as the core internal resources, whose allocation and utilization efficiency directly determine the quality of competitive sport management.

Stakeholder theory (ST), on the other hand, emphasizes that the success of an organization relies on the effective management of all groups (i.e., stakeholders) that can influence or be influenced by its goals (Freeman, 1984). Social agents (e.g., government, athletic associations) and market agents (e.g., sponsors, media) are indispensable external stakeholders of collegiate athletic events, and their participation and support are key external resources for optimal competitive sport management. Optimized competitive sport management aims to promote the innovation and development of university sport events, and its effectiveness can be comprehensively measured through multidimensional values such as economic, social, educational, and cultural (Amador *et al*., 2016), which fits with the concept of social accounting matrix (SAM) to assess the comprehensive benefits of sport events. Therefore, we propose the following hypotheses:

H1: There is a significant correlation between university disciplines and university competitive sports management.

H2: There is a significant correlation between social entities and university competitive sports management.

H3: There is a significant correlation between market entities and university competitive sports management.

H4: There is a bidirectional significant relationship between university competitive sports management and the innovation and development of sports events.

H5: There is a significant correlation between university entities and the innovation and development of sports activities.

H6: There is a significant correlation between social entities and university sports event innovation and development.

In order to systematically explore the mechanisms influencing the innovation and development of university sports events, this study integrates the core ideas of Resource-Based Theory (RBV), Stakeholder Theory (ST), and Social Accounting Matrix (SAM) to construct a comprehensive analytical framework. The framework aims to elucidate how the three key stakeholders, namely university subjects, social subjects and market subjects, can ultimately drive the innovative development of college sports events on multiple value dimensions by influencing the practice of competitive sports management.

## 2.2 University subject and competitive sports management

Resource-based theory (RBV) asserts that the unique and hard-to-replicate resources possessed by an organization are fundamental to its ability to gain and maintain competitive advantage. In the context of collegiate athletic events, the college subject itself is the controller of core resources. Its internal resources, including financial inputs, human capital (e.g., professional management and teaching teams), hardware facilities, and intangible brand reputation and management experience, together form the basis of competitive sport management. Existing studies have clearly indicated that the financial and human resource allocation status of universities is crucial to the success of events, while a sound and standardized event management system is the key to guaranteeing the efficient and orderly operation of events Zhang (2019). If a university can effectively integrate and optimize its internal resources and establish a flexible and professional management system, the overall level and efficiency of its competitive sports management will be significantly improved. On the contrary, improper resource

allocation or rigid management system will directly restrict the effectiveness of management practices.

### 2.3 Social subject and competitive sports management

Stakeholder theory (ST) suggests that the success of any organization cannot be achieved without the effective management and coordination of the needs of various internal and external stakeholders. In the ecology of college athletic events, social agents play a crucial external stakeholder role. These include government departments that provide policy guidance and macro support, sports associations at all levels that are responsible for industry coordination and standard setting, and community organizations that provide the basis for social capital and public participation. Research has shown that organizations such as the Federation of University Sports of China (FUSC) have played an important role in effectively integrating social resources and promoting event development through cooperation with government and education departments (Li *et al*., 2022). Meanwhile, the introduction of "school-enterprise cooperation" and other modes proves that the participation of social forces can bring new vitality to the allocation of resources for university sports events and improve their management level. Social participation injects legitimacy, external resources and social networks into the management of college athletics, and is an indispensable support system.

### 2.4 Market subject and competitive sports management

Market subjects, including event sponsors, marketing agencies, media platforms, etc., are the core external driving force that drives college sports events towards professionalization and commercialization. Their participation not only brings key financial support to the events, effectively compensating for the shortcomings of universities' own insufficient funding, but more importantly, they introduce market-oriented operation logic and professional management experience (Chen, Zhang, & Du, 2019). For example, effective marketing can attract a wider range of spectators and sponsors, forming a virtuous business cycle, which in turn pushes the event management to improve brand value and operational efficiency. The intervention of market players has

prompted the transition of competitive sports management from the traditional administrative model to a modern management model that pays more attention to efficiency, effectiveness and brand building.

### 2.5 Competitive sports management and sports events innovative development

Competitive sports management is not an end point, but a core mediator to realize the innovative development of events. On the one hand, high-quality competitive sports management provides the foundation and guarantee for event innovation. Through the innovation of competition system, it can inject flexibility and diversity into the event, thus stimulating its innovative vitality. Similarly, by creating influential event brands, more social resources can be attracted to provide impetus for the continuous innovation of events. On the other hand, the innovative development of events can also have a reverse effect on management practices. A successful innovative event can enhance the social image and brand value of the school and bring more considerable economic and social benefits, and these results will provide resources and motivation for the further optimization of the management of competitive sports (e.g., introducing more advanced technology and attracting better talents), forming a dynamic and mutually reinforcing virtuous circle (Yan & Tang, 2018).

### 2.6 University subject and sports events innovative development

University subjects not only indirectly influence event innovation through optimizing competitive sports management, but their own strategic decisions and direct actions are also important drivers of innovation. The adoption and application of new technologies by colleges and universities can directly improve the management efficiency, spectacle and interactive experience of events. In addition, the initiative of universities to seek changes in the content and form of events, such as designing more inclusive events that meet the needs of different groups, can directly enhance the social value and cultural dissemination of the events, which is in itself the core of innovative development (Xue & Zhang, 2020). As the "source" of innovation, the educational

philosophy, cultural atmosphere and strategic orientation of universities directly shape the direction and depth of event innovation.

### 2.7 Social subject and sports events innovative development

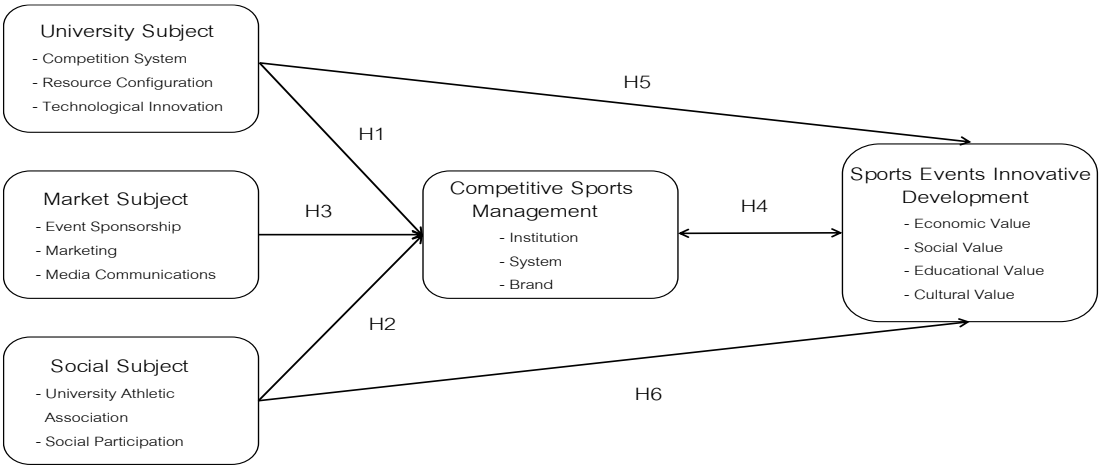
The participation of social subjects can also have a direct effect on the innovative development of events. The government's macro policy or the specific needs of the community may directly give rise to a new event model. For example, in the context of the national strategy of "integration of sports and education", the community's expectation of students' comprehensive quality cultivation will directly promote the innovation of events in the educational value level. Research has pointed out that the opening of sports facilities by universities to the community and the service of national fitness is not only a fulfillment of social responsibility, but also a direct enhancement of the social value dimension of the event (Song, Shi, & Dai, 2021). In addition, through "university-enterprise cooperation", enterprises bring not only capital, but also market experience and innovative ideas, which can directly stimulate the innovation of the event in terms of business model and organizational form.

### 2.8 Research model

Based on the literature review and research hypotheses, the conceptual model of the impact of competitive sports management on the innovative development of university sports events is shown in Figure 1.

**Figure 1**

*Conceptual model*




## 3 METHODOLOGY

### 3.1 Participants and sample design

The target population of this study consists of core sports practitioners in colleges and universities in Jiangxi Province, China. The practitioners are male or female aged over 33 years old, with at least 5 years of experience in the field. They also frequently serve as referees or coaches in provincial-level competitions. Using non-probability sampling methods, online questionnaires were distributed to sports management experts and professional teachers from 20 representative universities in Jiangxi Province (including comprehensive universities and vocational colleges). A total of 400 valid questionnaires were collected during the data collection stage for the final quantitative analysis.

### 3.2 Measurement

All measurement scales in this study were developed based on the systematic literature review and relevant theoretical foundations in Chapter 2 and were measured on a seven-point Likert scale (1=completely disagree, 7=completely agree) . The measurement dimensions of each core variable are as follows: university subjects:

through 15 items, measured from the three dimensions of event management system, resource allocation, and scientific and technological innovation, with reference to Zhang, J., & Li, H.'s (2018) scale; social subjects: through 10 items, measured from the two dimensions of university sports associations and social participation, with reference to Zhang, Ma, J. , & Zhu, Y.'s (2020) scale; Market Subjects: Measured through 15 items from the dimensions of event sponsorship, marketing, and media communication, with reference to Gwinner, K. P., & Bennett, G.'s (2008) scale; Competitive Sport Management: Measured through 15 items from the dimensions of institutions, systems, and branding, with reference to Chelladurai's (2010) scale. Measured on the scale of Chelladurai, P. (2006); Innovative development of sports events: Measured on the dimensions of economic value, social value, educational value, and cultural value through 20 items, cf. Fredline, L., Jago, L., & Deery, M. (2003).

## 4 DATA ANALYSIS AND RESULTS

In this study, a PLS-SEM model was constructed and validity and reliability tests as well as path coefficient analyses were conducted using Smart PLS 4.0 software to test the proposed hypotheses.

### 4.1 Confidence and convergent validity analysis

Internal consistency reliability is usually assessed by Cronbach's alpha (CA) and composite reliability (CR). According to Cronbach (1951), the acceptable critical value for Cronbach's alpha is greater than 0.70. Hair, Jr. *et al*. (2016) argued that the CR value must be higher than 0.70 to prove that internal consistency is at an acceptable level. As shown in Tables 1 and 2, the Cronbach's alpha values for all first-order constructs exceeded 0.70, and the second-order constructs also reached this critical value, indicating that the scales had satisfactory internal consistency. Composite reliability (CR) assesses the extent to which the observed variables explain the corresponding latent variables in a comprehensive manner. According to the data presented in Tables 1 and 2, the CR values for each construct exceeded 0.70, further confirming the strong internal consistency of the measurement model.

As a general guideline, the standardized factor loadings should be at least 0.708, as the square of this value is equal to 0.50, which means that the latent variables explain at least 50% of the variance in each metric (Hair *et al*., 2019). In addition, the AVE value should be no less than 0.50, which means that the constructs account for more than half of the variance observed in their indicators (Hair Jr. *et al*., 2016). According to Tables 1 and 2, the external loadings of all observed variables in the first- and second-order constructs in this study exceeded 0.708, indicating that the measurement model meets the established evaluation criteria. The AVE values of all constructs in this study are greater than 0.50, confirming that the measurement model has strong convergent validity.

**Table 1**

*First-order conceptual analysis*

| | Loading | T | P | Corrected term-total correlation | Cronbach Alpha after deletion of terms | Cronbach Alpha |
|---|---|---|---|---|---|---|
| BR1 <- BR | 0.861 | 67.364 | 0.000 | 0.782 | 0.905 | |
| BR2 <- BR | 0.891 | 92.851 | 0.000 | 0.822 | 0.897 | |
| BR3 <- BR | 0.867 | 68.974 | 0.000 | 0.787 | 0.904 | 0.92 |
| BR4 <- BR | 0.876 | 84.891 | 0.000 | 0.799 | 0.901 | |
| BR5 <- BR | 0.860 | 69.761 | 0.000 | 0.78 | 0.905 | |
| CMS1 <- CMS | 0.863 | 72.741 | 0.000 | 0.784 | 0.902 | |
| CMS2 <- CMS | 0.876 | 79.106 | 0.000 | 0.8 | 0.898 | |
| CMS3 <- CMS | 0.863 | 74.634 | 0.000 | 0.781 | 0.902 | 0.919 |
| CMS4 <- CMS | 0.885 | 83.894 | 0.000 | 0.814 | 0.896 | |
| CMS5 <- CMS | 0.859 | 67.099 | 0.000 | 0.779 | 0.903 | |
| CV1 <- CV | 0.847 | 63.068 | 0.000 | 0.759 | 0.9 | |
| CV2 <- CV | 0.879 | 85.783 | 0.000 | 0.805 | 0.89 | |
| CV3 <- CV | 0.860 | 69.868 | 0.000 | 0.777 | 0.896 | 0.914 |
| CV4 <- CV | 0.866 | 71.850 | 0.000 | 0.785 | 0.894 | |
| CV5 <- CV | 0.862 | 69.411 | 0.000 | 0.778 | 0.778 | |
| EDV1 <- EDV | 0.869 | 72.762 | 0.000 | 0.789 | 0.894 | |
| EDV2 <- EDV | 0.866 | 73.455 | 0.000 | 0.786 | 0.786 | 0.914 |
| EDV3 <- EDV | 0.879 | 78.974 | 0.000 | 0.803 | 0.803 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| EDV4 <- EDV | 0.834 | 58.173 | 0.000 | 0.741 | 0.741 | |
| EDV5 <- EDV | 0.867 | 75.262 | 0.000 | 0.786 | 0.894 | |
| ES1 <- ES | 0.857 | 66.677 | 0.000 | 0.772 | 0.894 | |
| ES2 <- ES | 0.850 | 63.326 | 0.000 | 0.763 | 0.896 | |
| ES3 <- ES | 0.867 | 71.816 | 0.000 | 0.786 | 0.891 | 0.913 |
| ES4 <- ES | 0.866 | 69.725 | 0.000 | 0.784 | 0.892 | |
| ES5 <- ES | 0.864 | 65.586 | 0.000 | 0.784 | 0.892 | |
| EV1 <- EV | 0.869 | 77.231 | 0.000 | 0.789 | 0.9 | |
| EV2 <- EV | 0.875 | 81.974 | 0.000 | 0.798 | 0.898 | |
| EV3 <- EV | 0.867 | 77.758 | 0.000 | 0.788 | 0.9 | 0.918 |
| EV4 <- EV | 0.855 | 65.600 | 0.000 | 0.772 | 0.903 | |
| EV5 <- EV | 0.875 | 75.560 | 0.000 | 0.799 | 0.898 | |
| IS1 <- IS | 0.859 | 64.315 | 0.000 | 0.773 | 0.891 | |
| IS2 <- IS | 0.870 | 75.602 | 0.000 | 0.79 | 0.888 | |
| IS3 <- IS | 0.860 | 72.688 | 0.000 | 0.776 | 0.891 | 0.911 |
| IS4 <- IS | 0.865 | 74.195 | 0.000 | 0.782 | 0.782 | |
| IS5 <- IS | 0.841 | 58.537 | 0.000 | 0.749 | 0.749 | |
| MC1 <- MC | 0.878 | 81.754 | 0.000 | 0.803 | 0.901 | |
| MC2 <- MC | 0.881 | 82.566 | 0.000 | 0.809 | 0.9 | |
| MC3 <- MC | 0.874 | 79.710 | 0.000 | 0.797 | 0.902 | 0.921 |
| MC4 <- MC | 0.843 | 61.102 | 0.000 | 0.756 | 0.756 | |
| MC5 <- MC | 0.881 | 86.256 | 0.000 | 0.808 | 0.9 | |
| MK1 <- MK | 0.864 | 66.088 | 0.000 | 0.782 | 0.898 | |
| MK2 <- MK | 0.857 | 64.386 | 0.000 | 0.773 | 0.899 | |
| MK3 <- MK | 0.876 | 75.894 | 0.000 | 0.799 | 0.894 | 0.916 |
| MK4 <- MK | 0.854 | 64.062 | 0.000 | 0.768 | 0.9 | |
| MK5 <- MK | 0.875 | 80.388 | 0.000 | 0.798 | 0.894 | |
| RS1 <- RS | 0.862 | 69.953 | 0.000 | 0.775 | 0.881 | |
| RS2 <- RS | 0.867 | 72.141 | 0.000 | 0.784 | 0.879 | |
| RS3 <- RS | 0.818 | 50.369 | 0.000 | 0.718 | 0.893 | 0.905 |
| RS4 <- RS | 0.845 | 62.562 | 0.000 | 0.754 | 0.885 | |
| RS5 <- RS | 0.862 | 72.547 | 0.000 | 0.776 | 0.881 | |
| SP1 <- SP | 0.875 | 83.644 | 0.000 | 0.8 | 0.897 | 0.918 |

| | | | | | | |
|---|---|---|---|---|---|---|
| SP2 <- SP | 0.876 | 74.021 | 0.000 | 0.8 | 0.897 | |
| SP3 <- SP | 0.853 | 65.459 | 0.000 | 0.768 | 0.904 | |
| SP4 <- SP | 0.873 | 72.744 | 0.000 | 0.794 | 0.899 | |
| SP5 <- SP | 0.864 | 74.188 | 0.000 | 0.783 | 0.901 | |
| ST1 <- ST | 0.862 | 77.501 | 0.000 | 0.797 | 0.894 | |
| ST2 <- ST | 0.872 | 78.501 | 0.000 | 0.794 | 0.895 | |
| ST3 <- ST | 0.854 | 62.718 | 0.000 | 0.769 | 0.9 | 0.916 |
| ST4 <- ST | 0.860 | 66.053 | 0.000 | 0.777 | 0.898 | |
| ST5 <- ST | 0.865 | 69.950 | 0.000 | 0.784 | 0.897 | |
| SV1 <- SV | 0.859 | 65.262 | 0.000 | 0.774 | 0.896 | |
| SV2 <- SV | 0.855 | 67.109 | 0.000 | 0.769 | 0.897 | |
| SV3 <- SV | 0.886 | 87.583 | 0.000 | 0.813 | 0.887 | 0.914 |
| SV4 <- SV | 0.857 | 68.973 | 0.000 | 0.773 | 0.896 | |
| SV5 <- SV | 0.854 | 63.172 | 0.000 | 0.769 | 0.897 | |
| T13 <- TI | 0.836 | 60.333 | 0.000 | 0.776 | 0.892 | |
| TI1 <- TI | 0.861 | 72.170 | 0.000 | 0.802 | 0.886 | |
| TI2 <- TI | 0.879 | 80.825 | 0.000 | 0.744 | 0.898 | 0.912 |
| TI4 <- TI | 0.872 | 74.968 | 0.000 | 0.791 | 0.889 | |
| TI5 <- TI | 0.851 | 64.316 | 0.000 | 0.764 | 0.894 | |
| UAA1 <- UAA | 0.863 | 72.272 | 0.000 | 0.782 | 0.906 | |
| UAA2 <- UAA | 0.873 | 74.183 | 0.000 | 0.798 | 0.903 | |
| UAA3 <- UAA | 0.886 | 85.893 | 0.000 | 0.815 | 0.9 | 0.921 |
| UAA4 <- UAA | 0.872 | 74.751 | 0.000 | 0.797 | 0.904 | |
| UAA5 <- UAA | 0.867 | 70.920 | 0.000 | 0.789 | 0.905 | |

Note: BR= Brand, CMS= Competition, Management System, CV= Cultural Value, EDV= Educational Value, ES= Event Sponsorship, EV= Economic Value, IS= Institution. MC= Media Communications, MK= Marketing, RS= Resource Configuration, SP= Social Participation, ST= System, SV= Social Value, TI= Technological Innovation. UAA= University Athletic Association.

**Table 2**

*Second-order construct analysis*

| | Cronbach's alpha | rho_a | rho_c | AVE |
|---|---|---|---|---|
| BR | 0.920 | 0.921 | 0.940 | 0.759 |
| CMS | 0.919 | 0.919 | 0.939 | 0.756 |
| CV | 0.914 | 0.914 | 0.936 | 0.745 |
| EDV | 0.914 | 0.915 | 0.936 | 0.745 |
| ES | 0.913 | 0.913 | 0.935 | 0.741 |
| EV | 0.918 | 0.918 | 0.939 | 0.754 |
| IS | 0.911 | 0.911 | 0.911 | 0.738 |
| M | 0.921 | 0.921 | 0.940 | 0.759 |
| MK | 0.916 | 0.916 | 0.937 | 0.748 |
| RS | 0.905 | 0.906 | 0.929 | 0.725 |
| SP | 0.918 | 0.918 | 0.918 | 0.754 |
| ST | 0.916 | 0.916 | 0.937 | 0.916 |
| SV | 0.914 | 0.914 | 0.936 | 0.744 |
| TI | 0.912 | 0.912 | 0.934 | 0.739 |
| UAA | 0.921 | 0.922 | 0.941 | 0.761 |

### 4.2 Discriminant validity analysis

According to Fornell & Larcker (1981), discriminant validity is established when the square root of the average variance extracted (AVE) of each latent variable exceeds its correlation coefficient with any other latent variable. The discriminant validity of the measurement model is satisfactory as shown in Table 3 and Table 4.

**Table 3**

*Fornell-Larcker analysis of first-order constructs*

| | BR | CMS | CV | EDV | ES | EV | IS | MC | MK | RS | SP | ST | SV | TI | UAA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BR | 0.871 | | | | | | | | | | | | | | |
| CMS | 0.522 | 0.865 | | | | | | | | | | | | | |
| CV | 0.515 | 0.512 | 0.863 | | | | | | | | | | | | |
| EDV | 0.505 | 0.518 | 0.508 | 0.863 | | | | | | | | | | | |
| ES | 0.506 | 0.518 | 0.515 | 0.508 | 0.861 | | | | | | | | | | |
| EV | 0.502 | 0.519 | 0.505 | 0.515 | 0.506 | 0.868 | | | | | | | | | |
| IS | 0.519 | 0.528 | 0.519 | 0.509 | 0.513 | 0.520 | 0.859 | | | | | | | | |
| MC | 0.513 | 0.518 | 0.513 | 0.517 | 0.505 | 0.513 | 0.516 | 0.871 | | | | | | | |
| MK | 0.511 | 0.521 | 0.508 | 0.514 | 0.517 | 0.525 | 0.515 | 0.507 | 0.865 | | | | | | |
| RS | 0.518 | 0.518 | 0.512 | 0.508 | 0.506 | 0.514 | 0.511 | 0.510 | 0.511 | 0.851 | | | | | |
| SP | 0.510 | 0.518 | 0.513 | 0.505 | 0.504 | 0.513 | 0.521 | 0.508 | 0.508 | 0.511 | 0.868 | | | | |
| ST | 0.512 | 0.515 | 0.513 | 0.505 | 0.506 | 0.514 | 0.513 | 0.513 | 0.505 | 0.512 | 0.514 | 0.865 | | | |
| SV | 0.510 | 0.521 | 0.518 | 0.513 | 0.522 | 0.523 | 0.520 | 0.513 | 0.511 | 0.515 | 0.512 | 0.517 | 0.862 | | |
| TI | 0.507 | 0.521 | 0.506 | 0.513 | 0.518 | 0.523 | 0.518 | 0.508 | 0.513 | 0.512 | 0.517 | 0.511 | 0.514 | 0.856 | |
| UAA | 0.514 | 0.517 | 0.505 | 0.504 | 0.508 | 0.517 | 0.527 | 0.508 | 0.519 | 0.513 | 0.516 | 0.505 | 0.512 | 0.520 | 0.872 |

**Table 4**

*Fornell-Larcker analysis of second-order constructs*

| | CSM | MS | SEID | SS | US |
|---|---|---|---|---|---|
| CSM | 1.000 | | | | |
| MS | 0.968 | 1.000 | | | |
| SEID | 0.972 | 0.972 | 1.000 | | |
| SS | 0.964 | 0.958 | 0.963 | 1.000 | |
| US | 0.970 | 0.970 | 0.969 | 0.963 | 1.000 |

The heteroskedasticity-monoskedasticity ratio (HTMT) measures the degree of differentiation between latent variables, and HTMT values are usually required to be less than 0.90, and should be less than 0.85 under more stringent criteria (Hair *et al*., 2019). As shown in Table 5, all latent variables have HTMT values below the 0.85 threshold. This result indicates that the measurement model has acceptable discriminant validity.

**Table 5**

*Discriminant validity of HTMT*

| | CSM | MS | SEID | SS | US |
|---|---|---|---|---|---|
| CSM | | | | | |
| MS | 0.768 | | | | |
| SEID | 0.772 | 0.774 | | | |
| SS | 0.764 | 0.758 | 0.763 | | |

| | | | | |
|---|---|---|---|---|
| US | 0.770 | 0.769 | 0.773 | 0.763 |

### 4.3 Structural equation modeling

The main criteria for evaluating structural models in PLS-SEM include the significance of the coefficient of determination ($R^2$), the predictive correlation ($Q^2$), and the path coefficient. $r^2$ indicates the degree to which the variance of an endogenous latent variable is explained by its corresponding predictive latent variable. chin (1998) provides a more detailed classification: an $r^2$ value of 0.67 or above indicates strong explanatory power, 0.33 to 0.67 indicates moderate explanatory power, and 0.19 to 0.33 indicates weak explanatory power. 0.67 or above indicates strong explanatory power, 0.33 to 0.67 indicates moderate explanatory power, and 0.19 to 0.33 indicates very weak explanatory power. An $R^2$ below 0.19 indicates very weak explanatory power and limited practical significance. According to Hair *et al*. (2019), as a general guideline, $Q^2$ values greater than 0, 0.25 and 0.50 indicate small, medium and large levels of predictive relevance, respectively.

As shown in Table 6, the $R^2$ values for perceived value, perceived risk, and purchase intention are all at a moderate level of explanatory power. All $Q^2$ values in the model are greater than zero, indicating that the model has some predictive relevance.

**Table 6**

*R2 and Q2 test*

| | $R^2$ | $R^2$adjusted | $Q^2$predict | RMSE | MAE |
|---|---|---|---|---|---|
| CSM | 0.959 | 0.959 | 0.958 | 0.205 | 0.159 |
| SEID | 0.962 | 0.962 | 0.960 | 0.200 | 0.164 |

### 4.4 Significance of path coefficients

Path coefficients quantify the direct relationship between latent variables, so their size and significance are key factors in evaluating structural models. In PLS-SEM, the original dataset is typically sampled repeatedly using a bootstrapping technique, typically 5000 or more times according to Hair Jr. *et al*. (2021), to calculate the standard errors of

the path coefficients. This iterative process allows for the calculation of t-values and corresponding confidence intervals. In this study, 5000 resampling iterations were performed to test the statistical significance of the path coefficients. The results (including path coefficients, t-values, and p-values for the structural model) are shown in Figures 2 and 3 and Table 7.

**Figure 2**

*Path coefficients of structural model*

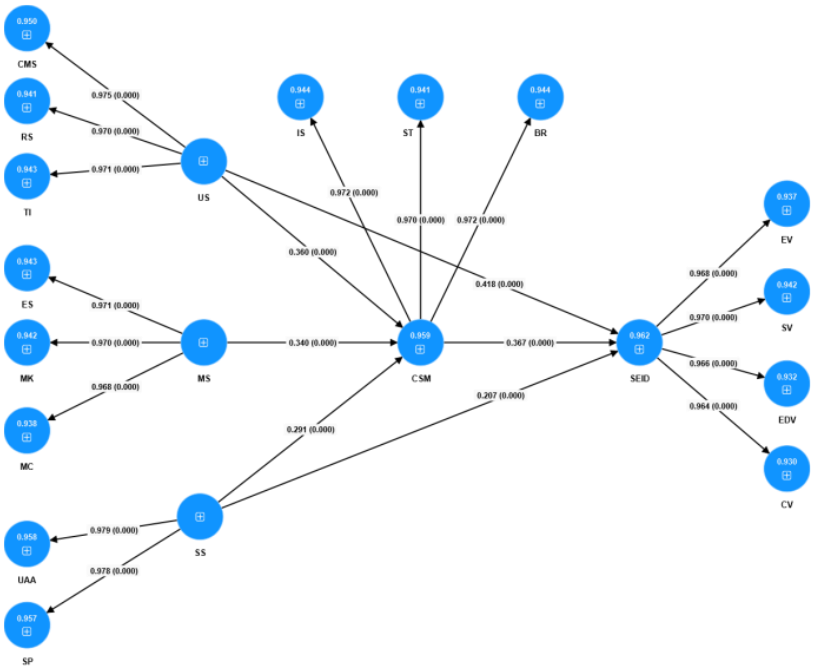


**Figure 3**

*Path coefficients of SEID to CSM*

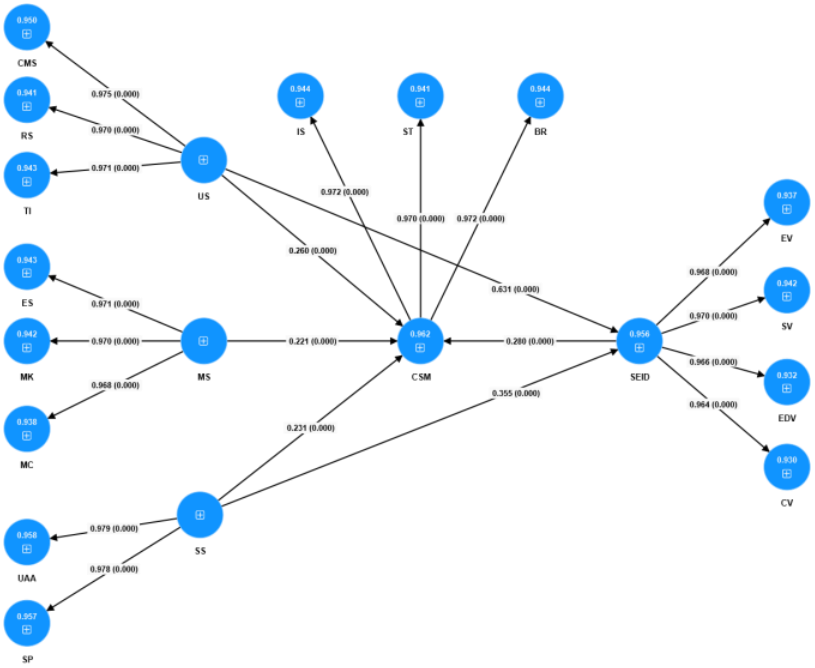



**Table 7**

*Path coefficients of PLS-SEM and their significance level*

| | Original sample | Sample mean | Standard deviation | T | P |
|---|---|---|---|---|---|
| US -> CSM | 0.361 | 0.360 | 0.361 | 7.690 | 0.000 |
| SS -> CSM | 0.291 | 0.290 | 0.038 | 7.736 | 0.000 |
| MS -> CSM | 0.340 | 0.341 | 0.045 | 7.651 | 0.000 |
| CSM -> SEID | 0.367 | 0.367 | 0.040 | 9.092 | 0.000 |
| SEID -> CSM | 0.280 | 0.280 | 0.054 | 5.197 | 0.000 |
| US -> SEID | 0.418 | 0.418 | 0.418 | 10.098 | 0.000 |
| SS -> SEID | 0.207 | 0.207 | 0.039 | 5.318 | 0.000 |

In order to test the six core hypotheses proposed in this study, we analyzed the path coefficients of the structural model, and the detailed results are shown in Table 7. The results of the analysis show that the T-statistics of all hypothesized paths are much larger than the critical value of 1.96, and the P-values are all 0.000, indicating that the path relationships are all statistically extremely significant. Specifically, university

subjects (β=0.360), social subjects (β=0.291) and market subjects (β=0.340) all have a significant positive influence on the management of competitive sports in universities, so H1, H2 & H3 are supported. In terms of the direct influence on the development of event innovation, the path coefficients of university subjects (β=0.418) and society subjects (β=0.207) are also significantly positively correlated, supporting H5 and H6 . It is worth noting that the path coefficient of the direct influence of university subjects on the development of tournament innovation is the largest, indicating that it is the core direct driver. In addition, the findings strongly confirm the two-way interaction between competitive sport management and event innovation development (H4). The coefficient of the path from competitive sport management to event innovation development is 0.367, while the coefficient of the reverse path is 0.280, both of which are significant positive influences, indicating that there is a dynamic and mutually reinforcing virtuous circle between the two.

### 4.5 Mediation effect analysis

PLS-SEM, as a variance-based analysis, is particularly suitable for exploratory studies and allows for accurate estimation of mediating effects, as noted by Haile Jr. *et al.* (2021). The raw data were sampled 5000 times by the Bootstrap method and 95% confidence intervals were constructed.

**Table 8**

*Results of the mediation effect test*

| | Original sample (O) | Sample mean (M) | Standard deviation | T | P | 2.5% | 97.5% |
|---|---|---|---|---|---|---|---|
| US -> CSM -> SEID | 0.132 | 0.132 | 0.132 | 6.224 | 0.000 | 0.094 | 0.175 |
| SS -> CSM -> SEID | 0.107 | 0.106 | 0.016 | 6.480 | 0.000 | 0.076 | 0.140 |
| MS -> CSM -> SEID | 0.125 | 0.126 | 0.024 | 5.159 | 0.000 | 0.082 | 0.177 |

To further explore the role of competitive sport management in the model of this study, we used the Bootstrap method (5000 resamples) to test its mediating effect in the relationship between the subjects and the development of event innovation. As shown in Table 8, the test results reveal that competitive sport management plays a key bridging role. The indirect effects of university subjects (β = 0.132), social subjects (β = 0.107) and market subjects (β = 0.125) on the innovative development of sports events through competitive sports management all have T-statistics well above 1.96 and 95% confidence intervals that do not contain 0, indicating that all three mediating paths are significantly established. This finding confirms that the three main bodies not only directly or indirectly affect event innovation, but more importantly, systematically promote innovation development by optimizing the institution, system and brand of competitive sports management.

## 5 DISCUSSION AND CONCLUSIONS

This study aims to reveal through empirical analysis how university entities, social entities, and market entities jointly influence the innovative development of university sports events in Jiangxi Province, China, through competitive sports management. The results of the structural equation model analysis strongly support the theoretical framework proposed in this study and provide profound insights into this complex influence mechanism. Developed countries such as the United States and Japan have taken the lead in integrating localized elements into this model and achieved remarkable results.

The "March Madness" basketball tournament in the United States, the top-level college basketball competition, is a model of commercialization and brand operation of global college sports events. It has not only signed long-term broadcasting agreements worth billions of dollars with giants such as the NCAA, CBS, and Turner Sports, but also spread the event globally, generating huge revenues. Moreover, its revenue sources are diversified, including broadcasting rights, sponsors (such as ATT, Coca-Cola), tickets, and various merchandise. These revenues are used to support all member schools' sports programs and develop student athlete scholarships. In addition, the unique single-elimination format of the event is full of suspense, attracting the attention and

participation of the general public and generating significant social influence. Student athletes can also earn commercial income through their popularity. This event fully integrates the three elements of university entities, social entities, and market entities, which is an important cornerstone of its success.

The Hakone Ekiden race in Japan is a long-distance relay race for male university teams in the Kanto region. Its influence extends far beyond sports and has become a national festival in Japan. The event perfectly combines competitive sports with traditional culture (New Year - team spirit - fighting spirit), endowing it with unique spiritual value and making its viewership and attention extremely high. The media and event organizers pay great attention to depicting the characteristics of each university team, the background and mental journey of each athlete, turning the competition into a "热血 animation" full of human interest and drama, greatly enhancing the audience's sense of immersion and emotional investment. The spontaneous support along the route, the school's cheering culture, and the nationwide viewing craze together create a grand festival atmosphere of full participation. This event, on the basis of the basic event structure, integrates the regional cultural elements of university entities and market entities, making it highly attractive and extending its social functions with a local festival atmosphere, which is an important element for its success. College subjects, social subjects and market subjects all have significant positive influence on competitive sport management (H1, H2, H3 hold). Among them, the university subject, as the core of event management, has a fundamental role in the construction of management system and resource allocation, which is in line with previous studies emphasizing the importance of internal resources of universities. Meanwhile, this study found that social subjects, through the coordination and social participation of university sports associations, and market subjects, through event sponsorship and market-oriented operation, have made key contributions to enhancing the professionalization of competitive sports management and the ability to safeguard resources, which corroborates the applicability of the stakeholder theory in the context of university sports management.

This study reveals the differences in the path of influence of each subject on the development of event innovation. The study found that university subjects have the strongest direct positive influence on event innovation development ($\beta = 0.418$),

confirming that the universities' own determination to reform, scientific and technological investment, and strategic planning are the core engines that drive innovation, a finding that is consistent with studies emphasizing the direct drivers of technological innovation. The participation of social agents can also directly promote innovation development (β=0.207), especially in enhancing the social value of the event. Market actors do not have a significant direct effect on the development of event innovation, but rather their role is mediated solely through the mediating variable of "competitive sport management". This suggests that market forces (e.g., capital and business experience) do not directly generate innovations, but rather act first to optimize management practices, which are then incubated and realized by more efficient and professional management systems.

This study confirms the existence of a significant two-way interaction between competitive sport management and the development of innovation in university sport events (H4 established). Optimized management practices are the prerequisite for promoting event innovation, while the economic, social and brand value enhancement brought by innovative events feeds back and promotes the upgrading of the management system, forming a virtuous cycle of sustainable development.

The quantitative analysis results of this study clearly show that the innovative development of college sports events is a complex ecosystem driven by multiple subjects. The university subject is the endogenous core driving force, while the social and market subjects provide key external support. Competitive sport management plays a crucial role as a "converter", which is not only a necessary way to realize the innovation of events, but also forms a symbiotic relationship with the innovation results in a dynamic and mutual structure. These findings provide a solid empirical basis and a clear practical path for Chinese universities, especially those in the central and western regions, to optimize sports event management and formulate innovative development strategies.

Therefore, this study proposes that the sports events with characteristics of Jiangxi region should be optimized in the following four aspects.

First, innovation in management mechanism: establish a modern governance system of "professional leadership and diversified collaboration". Set up a specialized event operation center, encourage major universities to take the lead in establishing or outsourcing to professional sports event operation companies, responsible for market

development, brand promotion, media cooperation and commercial sponsorship, achieving "separation of government operation"; at the same time, introduce a performance evaluation system, establish scientific event evaluation indicators (such as participation rate, media exposure rate, commercial income, social evaluation), optimize management processes based on results; finally, establish a school-enterprise collaborative alliance, integrate resources from education, sports administrative departments, universities, enterprises and sports associations, form a "government-school-enterprise" collaborative event organization mechanism, jointly formulate event planning and standards.

Second, innovation in event model: create a "diverse integration, distinctive" event product system. Expand event supply, on the basis of consolidating traditional advantageous projects, actively introduce emerging sports projects that are popular among young people, such as e-sports, intellectual sports, outdoor leisure sports (such as rock climbing, cycling, paddleboarding); on this basis, create a tiered league system, build a multi-level competition system covering "intra-school league - inter-school league - provincial league", allowing students of different levels to find their own participating platforms; the practice part should deepen "education and sports integration", design innovative competition systems that deeply combine with courses teaching, physical fitness tests, and club activities, expand participation basis, truly achieve "promoting teaching through competitions, promoting practice through competitions".

Third, innovation in resource allocation: explore "open-source and cost-saving, mutual benefit and win-win" market-oriented paths. Expand the sources of event funds, actively seek corporate sponsorship, develop copyrights and broadcasting rights, sell licensed souvenirs (red culture souvenirs, ceramic culture souvenirs), explore "alumni donation fund" support models; explore local resources, fully utilize the advantages of "Jiangxi Media" and "Jiangxi Tourism and Culture" media, and deeply cooperate with media platforms such as Jiangxi Television, to create a nationally influential university sports media product. Combined with the characteristics of Nanchang as a "hotspot city", create "sports + tourism" hot event; motivate talent development, set up scholarships for outstanding athletes and special training funds for coaches, open up green channels for outstanding student athletes in terms of education and employment, solve their worries.

Fourth, technological and cultural innovation: create a "digital empowerment, cultural identification" new event ecosystem. Promote digital transformation, build an upgraded digital platform for university events, realize one-stop services such as registration, schedule, data statistics, and live broadcast replay, widely apply sports wearables and data analysis technologies, enhance the professionalism and entertainment value of the events; strengthen brand and cultural construction, design a unified regional identification system, create event IPs with Jiangxi cultural characteristics such as "Hundred-Pond Lake International Cycling Competition, Chinese Legend Challenge", and can also hold opening ceremonies, star player selection, campus sports culture festivals, etc., to enhance the sense of ceremony and community belonging; build a "media convergence" broadcasting matrix, fully utilize short videos and social media for topic marketing and interactive dissemination, tell the exciting stories of athletes and events, attract wider social attention.

## REFERENCES

Amador, L., Campoy-Muñoz, P., Cardenete, M. A., & Delgado, M. C. (2016). Economic impact assessment of small-scale sporting events using Social Accounting Matrices: an application to the Spanish Football League. *journal of Policy Research in Tourism, Leisure and Events*.

Chen, L. W., Zhang, Q., & Du, Z. B. (2019). Benefit analysis of college sports events in Shandong Province - With Shandong Agricultural University as an example. *Shandong Sports Science & Technology, 41*(6), 70-73.

Freeman, R. E. (1984). *Strategic management: A stakeholder approach.* Pitman.

Fredline, L., Jago, L., & Deery, M. (2003). The development of a generic scale to measure the social impacts of events. *Event Management, 8*(1), 23-37.

Gwinner, K. P., & Bennett, G. (2008). The impact of brand cohesiveness and sport identification on brand image transfer in sponsorship-linked marketing. *Journal of Sport Management, 22*(4), 410-426. , 410-426.

Li, X. P., Li, Z. W., Hao, J. C., & Wang, R. F. (2022). Realistic Dilemma and Optimization Strategy of College and University Sports Competition System in China. *Sports Culture Guide, 8*(8), 1-7.

Ma, J., & Zhu, Y. (2020). Research on the optimization of resource allocation of university sports events from the perspective of collaborative governance. *Journal of Xi'an Physical Education University, 37*(6), 724-730.

Maltese, L., & Veran, L. (2008). Managing and Modeling the Combination of Resources in Professional Sporting Events. In *Event Tourism: Definition, Evolution, and Research*

Song, Y., Shi, W., & Dai, Z. (2021). On the high-quality development path of China's sports events during the 14th Five-Year Plan period. *Journal of Nanjing Sport Institute, 20(9), 1-8. Journal of Nanjing Sport Institute, 20*(9), 1-8.

Xue Junqiang, & Zhang Hui. (2020). Research on the theory and practice of cultivating competitive sports talents in colleges and universities in the new era. Sports and Cultural Supplies *and Technology,* (450), 186-187.

Yan, S., & Tang, W. (2018). Differences in the operation mechanisms of competitive sports events between Chinese and American universities and their implications. *journal of Jilin Sports University, 2018*(1), 54-57.

Yu, H. (2020). Research on the Innovative Development of College Sports Events in the Context of Competitive Sports. *Journal of Guangzhou Sport University, 40*(6), 33-43.

Zhang, J., & Li, H. (2018). The path for the reform of the management system of university sports competitions in Shandong Province. *Journal of Liaoning Normal University (Social Science Edition), 41*(5), 652-658.

Zhang, N. (2019). Research on the Mechanism of High-Quality College Sports Events in the Transition Period. *Bulletin of Sport Science and Technology, 27*(5), 125-159.

Zhang, Q., Li, Y., & Xu, Z. (2018). Operation of sport events in colleges and universities: a case study of Shandong. *Shandong Sports Science & Technology, 40*(1), 71-74.

## Authors' Contribution

All authors contributed equally to the development of this article.

## Data availability

All datasets relevant to this study's findings are fully available within the article.

## How to cite this article (APA)

Liu, S., & Kwanmuangvanich, P. (2026). THE ROLE OF COMPETITIVE SPORTS MANAGEMENT IN DRIVING INNOVATIVE DEVELOPMENT OF COLLEGE SPORTS EVENTS: A STUDY IN JIANGXI PROVINCE, CHINA. Veredas Do Direito, 23(6), e6110. https://doi.org/10.18623/rvd.v23.6110