

Відгук офіційного опонента

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на дисертаційну роботу аспіранта кафедри публічного управління та
адміністрування **Люй Цзімінь (Liu Ziming)**

«Управління спортивною індустрією для сталого розвитку (Management of Sport Industry for Sustainable Development)», поданої на здобуття ступеня доктора філософії з галузі знань 07-управління та адміністрування за спеціальністю 073 - «Менеджмент»

Relevance of the research topic. Nowadays, the digital economy has become an important channel to drive China's economy to achieve high-quality development. The sports industry is at a stage of structural transformation, and there are still several problems of unreasonable business structure, low product and service quality, and low brand growth efficiency. With the emergence of a new round of scientific and technological revolution and industrial transformation, the digital economy with data as the core production factor and based on digital information technology is booming, which will play an important role in the high-quality development of the sports industry. The digitalization process is also accelerating the development of the sports industry through deeply integrated digital industrialization. Cultivating talents in sports will contribute to the development of the digital economy. Scientific and technological innovation needs talents as support, and the scale and quality of digital talents in the sports industry will become the key elements in determining the digital transformation of the sports industry. Governments at all levels should actively build a service platform for talent innovation in the sports industry, guide the reform of talent training and talent introduction in the sports industry, and optimize the environment for talent training.

Accelerating the digital transformation of sports enterprises is possible through the extensive use of digital technology to improve their supply capacity. According to current trends in China sports enterprises should fundamentally increase investment in

sports science and technology innovation, extensively use digital technology, improve the production level of the sports manufacturing industry, promote the rapid development of the sports service industry, and improve the effective supply of the industry. That's why the topic of the dissertation is relevant and actual.

Connection of work with scientific programs, plans, topics. The dissertation was carried out in accordance with the directions of research work of the Department of Management named after professor L.Mykhailova of the Sumy National Agrarian University: "Development of management in the context of international integration processes" 2019-2023 (state registration number 0119U001336), within by the author was carried out the topic of Research on Management of Sport Industry for Sustainable Development.

The scientific novelty of the obtained results. The scientific novelty of the obtained results is that the theoretical provisions and methods proposed in the work deepen the research and practice tools for the sustainable development of the sports industry in China and provide the possibility of more effective management. The main theoretical provisions outlined in this work have reached the level of methodological developments and practical recommendations, are used and implemented in management practice.

Scientific achievements are real, and their scientific nature can be expressed as follows:

- at first was developed the evaluation index system for sustainable development of the sports industry is proposed based on the developmental theory of the sports industry, encompassing an assessment of both internal and external factors as well as evaluating the management capacity for sustainable development in a multi-agent sports industry.

Were improved:

- - theoretical and methodological foundations of the theory of empirical study of

the behaviour sports industry multi-agent;

- the index system for a thorough assessment of the sports industry to multi-agent management capabilities, foster sustainable economic development within the sector, and enhance the managerial proficiency for ensuring its sustainable growth;

- the TOPSIS entropy weight model through calculating the weights of the government factor and grassroots governance as primary drivers of economic influence for the sustainable development of the sports industry;

- methodological principles for assessment fundamentally impact the industrial structure the management capacity for sustainable development in the sports industry;

Acquired further development:

- the concept of improving the sustainable development management ability of the sports industry and ensuring the sustainable and balanced development of the sports industry (structure strengthening, structure reconstruction, structure time and space).

This will help improve the management capabilities of the various management players, solve the tasks facing the sports industry and achieve the management goals set by the state;

- approaches of sustainable development management ability of sports industry by optimizing the main factors of sports industry development management, which is based on correctly promoting the scale of digital economy agglomeration and planning agglomeration areas are the embodiment of the national management ability, which is conducive to improving the quality of sustainable development of the sports industry and achieving the national management objectives.

Theoretical and practical significance of the results of the dissertation. The practical significance of the obtained results is that the theoretical provisions and methods proposed in the work deepen the research and practice tools for the sustainable development of the sports industry in China and provide the possibility of more effective management The main theoretical provisions outlined in this work have reached the

level of methodological developments and practical recommendations, are used and implemented in management practice.

Completeness of presentation of the dissertation material in scientific publications.

The source base of the research includes a significant number of foreign and domestic theoretical studies, analytical works, regulatory and legal documents, statistical information, which make scientific provisions and practical recommendations sufficiently substantiated. The statistical data used in the work are relevant and reliable. The dissertation bibliography forms a clear presentation of the results of the review of the current state of affairs in the chosen field of research.

The main scientific provisions and research results on the topic of the dissertation were published in 15 scientific works, including: 3 articles in specialized scientific publications of Ukraine, all included in international scientometric databases; 2 articles were published in scientific periodicals of the Organization for Economic Cooperation and Development, which are included in the Scopus scientific-metric database; 9 theses in materials of scientific conferences; 1 article in other publications.

List of publications of the acquirer:

Articles in periodical scientific publications indexed in the Web of Science Core Collection and/or Scopus databases

1. **Ziming, L.** Management of sports industry: moving to economic development. *Marketing and Management of Innovations*, 2021. 4, 230-236. <http://doi.org/10.21272/mmi.2021.4-18>

2. **Liu Ziming**, Tetiana Kharchenko Innovations in the field of sports industry management: assessment of the digital economy's impact on the qualitative development of the sports industry. *Baltic Journal of Economic Studies*. Vol. 9 No. 3, 2023. Pp. 10-21. <https://doi.org/10.30525/2256-0742/2023-9-3-10-21>

Articles in scientific publications included in the list of specialized scientific

publications "B" category of Ukraine

3. Tetiana Kharchenko & Liu Ziming The Relationship between Sports Industry Development and Economic Growth in China. *Oblik i finansi, Institute of Accounting and Finance*. 2021. issue 1 (91), pages 136-140, March. DOI: 10.33146/2307-9878-2021-1(91)-136-140.

4. Liu Ziming, Kharchenko T.O The impact of sport industry on economic development. *Economy and Society*, 2022. (39). <https://doi.org/10.32782/2524-0072/2022-39-6>

5. Liu Ziming, Tetyana O. Kharchenko Under the belt and road background of the new path of sports tourism industry development in China. *Mechanism of an Economic Regulation*, 2022. (1-2(95-96), 127-130. <https://doi.org/10.32782/mer.2022.95-96.19>

Other publications

6. Liu Ziming, Kharchenko T.O. Determining the Degree of Connection between the Development of the Sports Industry and Economic Growth in the Regional Context: Evidence from 31 Provinces in China. *Economic of development*. Vol.20 No.2 (2021), 8-18. DOI: 10.57111/econ.20(2).2021.8-18.

7. Liu Ziming, Тетяна Харченко. Research on the development of rural sports industry and sports economy. *Наука онлайн: Міжнародний електронний науковий журнал*. 2021. №3. URL: <https://nauka-online.com/publications/economy/2021/3/22-2>.

8. Liu Ziming, Kharchenko T.O. Research on the countermeasures for the sustainable development of sports economy in Ukraine. *International Journal of Recent and Development*. Vol. 8, Issue, 12 (C), pp.114-116. Online ISSN: 2349-4182, Print ISSN: 2349-597

9. Liu Ziming, Kharchenko T.O. Research on the Development Path of Sports Industry in the Context of Belt and Road. *Turkish Journal of Computer and Mathematics Education*. Vol.12 No.14 (2021), 3780-3783. URL:

<https://turcomat.org/index.php/turkbilmnat/article/view/11019/8201>.

10. **Liu Ziming**. Research on the Relationship between China Sports Industry Added Value and Economic Development Index Based on Grey Correlation Analysis. *Current issues of world and national economy: estimates and development strategies: Proceedings of the international scientific-practical conference (Lviv, March 27, 2021)*. NGO "Lviv Economic Foundation". p. 100-103.

11. **Liu Ziming**. (2021). VAR model parameter estimation of the Relationship between Sports Industry Development and Economic Growth in China. *Modern Movement of Science: abstracts of the 12th International Scientific and Practical Internet Conference (April 1-2, 2021)*, P1. Dnipro. p. 97-100.

12. **Liu Ziming**, Kharchenko T.O. Impact of sports industry development on rural economy. Глобалізація: співвідношення міжнародних та національних економічних інтересів під впливом нових викликів: *матеріали VIII Міжнародної науково-практичної конференції (м. Одеса, 9 квітня 2021 р.)*. МГУ, 2021. С. 60-63.

13. Liu Ziming Analysis on the connectivity of sports industry and economic development. Collection of abstracts XVIII International scientific and practical conference of young scientists (Ternopil, May 6, 2021). p. 48-52.

14. **Liu Ziming**. Research on the countermeasures for the sustainable development of sports economy in Ukraine. *Today economy in the context of global changes in society: a collection of materials of the scientific-practical conference (Zaporozhye, September 4, 2021)*. Zaporozhye: NGO "SIEU", 2021. p. 29-33.

15. Liu Ziming Assessing the impact of the digital economy on the high-quality development of the sports industry. *Матеріали Всеукраїнської наукової конференції студентів і аспірантів, присвяченої Міжнародному дню студента (14-18 листопада 2022 р.)*. Суми, 2022. Р. 273.

The degree of validity of scientific provisions. The scientific provisions, conclusions and recommendations obtained from the research results are sufficiently substantiated and reliable. The dissertation is characterized by a clear adherence to the structural and logical scheme of the research, the correspondence of the scientific results and the provisions issued for the protection of scientific novelty to the set goal and the specific task of the research.

The dissertation student used a sufficient number of information sources from open databases, regulatory and legal literature, statistical and analytical materials. The results of the research and the author's recommendations have undergone practical testing, which is confirmed by relevant documents.

The above is evidence of a sufficient level of validity and reliability of the results of scientific research, conclusions and proposals.

The structure and content of the dissertation, its completeness and compliance with the established requirements for design. A dissertation represents a completed scientific study, comprising scientific statements, conclusions, and recommendations derived from personal research endeavors. Published scientific works are independent developments and reflect the main content of the dissertation. In the introduction, the justification of the research topic is comprehensively analyzed, its connection with scientific programs and topics is reflected, the goal and task of the research, the object, the subject are determined, the scientific novelty and practical significance of the results are indicated, the personal contribution of the recipient of the scientific work is determined, the approbation of the results is noted on the topic of the dissertation through participation in conferences and other events.

The first chapter represents the theoretical foundations of China's sports industry development and analyzes the experiential models of sports industry development in developed countries. In general, China's sports industry development mode is primarily

characterized by the organic integration of government leadership, market guidance, and promotion of large-scale sporting events, demonstrating stage-specific characteristics of "manufacturing" and "service". The author is defined that despite continuous optimization in the scale of the industry, there still exists a series of challenges that need to be addressed. These challenges mainly include the need for detailed policy guidance, clear delineation of government functions, lagging development in governance structures within social organizations related to the sports industry, unbalanced growth within core sectors of the sports industry, as well as improvements needed in product and service quality. Also, is determined a substantial gap between China's level of sports industry development compared to that observed in developed nations.

In the second chapter, examines the theory and methodology of complex networks offer a novel perspective and analytical approach for the "qualitative" analysis of the structure within the sports industry. The internal correlation network of the sports industry structure is established based on industrial division of labor, with varying degrees of intricacy forming a three-dimensional industrial chain. Asset universality serves as the "resource valve" for network conduction related to the sports industry structure. Due to assets' strong versatility, different departments within various industries control distinct resources, resulting in differing levels of network influence among departments with varying network statuses. Technological innovation plays a pivotal role in shaping directional correlation networks within the sports industry structure. Technology integration and leading-edge technologies impact the associated industry chain within the sports sector. The amalgamation of product functionalities and collaborative market expansion establishes an industrial chain lock transmission mechanism, fostering non-institutional cluster "modules" among small groups sharing common external relations. The level of disposable income among residents affects both the density of relevant networks within the sports industry structure and subsequently influences overall functionality and spillover benefits derived from this sector.

Furthermore, the chapter concludes with the presentation of specific scientific results that demonstrate the author's personal contributions to the addressed problem and characterize the scientific novelty of the work, as evidenced in the publications.

The third chapter presents an alternative path for the sustainable development, optimization, and upgrading of the sports industry. It's explored both inward and outward orientations and elaborates on the key paths, directions, and measures associated with different types of paths. To provide a scientific foundation for selecting the optimal path for the sustainable development of the sports industry is developed causal diagrams, flow charts, and system dynamics equations to depict system optimization. Furthermore, a dynamic model is established to optimize the sustainable development of the sports industry system. The advantages of this model are that it is based on China's internal and external paths towards sustainable development and optimization in its sports industry, simulation parameters are designed to propose seven distinct paths: traditional development; driven by sports services; driven by leading industries; driven by coordinated development; driven by resource optimization; driven by sports technology innovation; and demand driven optimization.

It was carried out an analysis of the plagiarism check report for the presence of textual borrowings (Strike plagiarism program). The reviewers came to the conclusion that the dissertation of Liu Ziming on the topic «Management of Sport Industry for Sustainable Development» is the result of the applicant's independent research and does not contain elements of plagiarism and borrowing in accordance with the Resolution of the CMU dated 12.01.2022 No. 44, Clause 9. Used ideas, results and texts of other authors are linked to the corresponding source.

Discussion clauses and remarks to the dissertation.

However, in my opinion, it is appropriate to note that there are certain debatable points in the work.

In the theoretical part of the dissertation, by considering the conceptual and categorical apparatus, the author should not have focused only on the concepts of "sport industry" and "sustainable development", but it would be better to research the main components concept of the sustainable development which would improve the quality and logical sequence of theoretical statements.

In the scientific novelty author mentioned developing the evaluation index system for sustainable development of the sports industry is proposed based on the developmental theory of the sports industry, encompassing an assessment of both internal and external factors as well as evaluating the management capacity for sustainable development in a multi-agent sports industry and relevant research. It is recommended to justify the scale of developed indices from the point of view digitalization and possible using for the sport industry of different countries.

In the first chapter author mentioned that China's relevant research base of the development sports industry is relatively lagging behind, especially in the projection of sustainable development, and lacks the corresponding legislative regulations guidance. It is appropriate to conduct a more detailed analysis of the legislative framework and identify its imperfections.

The author is determined that the government should strengthen support policies and support measures. As the sports industry is an emerging industry, many start-ups and small companies have limited capital reserves and weak risk resistance. On the other hand, enterprises operating in various sports venues and sports goods stores bear high cost pressure during the epidemic. However, only general recommendations are presented in the dissertation. Therefore, in chapter 2, it would be appropriate to concrete government support measures and expected results regarding the development of the sports industry in different regions of China.

Also, the author's statement that the sports industry influences and interacts with economic development, and determines the level of connection between them lacks any

analytical basis to confirm or refute.

However, the indicated comments and wishes do not fundamentally affect the overall positive assessment of the dissertation work, are not fundamental and do not reduce its rather high overall assessment.

General conclusion

Dissertation work of Liu Ziming «Management of Sport Industry for Sustainable Development», submitted for defense to a specialized scientist council for obtaining the degree of Doctor of Philosophy in the field of knowledge 07 management and administration with a specialty 073 Management in terms of its relevance, scientific and theoretical level, main results of validity, main provisions and results published in professional publications, the novelty of the statement and practical significance meet the requirements of the order of the Ministry of Education and Culture of Ukraine No. 40 of January 12, 2017 "On approval of requirements for the preparation of a dissertation" and Resolution of the Cabinet of Ministers of Ukraine dated January 12, 2022 No. 44 "On approval of the Procedure for awarding the degree of Doctor of Philosophy and cancellation of the decision of the one-time specialized academic council of a higher education institution, scientific institution on awarding degree of Doctor of Philosophy" with changes introduced in accordance with Resolution of the Cabinet of Ministers No. 341 dated 03.21.2022

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