

Upgrading Path of the Whole Industrial Chain of Heze Peony Industry from the Perspective of Cultural and Tourism Integration

Ren Huijuan Hu Xuanhui Guo Rui

Qingdao Hengxing University of Science and Technology , Shandong Qingdao, 266100;

Abstract: As the Peony Capital of China, Heze's peony industry has formed an embryonic form of a complete industrial chain covering primary industry planting and cultivation, secondary industry intensive processing, and tertiary industry cultural and tourism experience, serving as the core pillar of local rural revitalization and characteristic economy. Against the backdrop of the in-depth advancement of the cultural and tourism integration strategy, Heze's peony industry has entered a critical transformation period from scale expansion to the dual improvement of quality and value. Based on the perspective of cultural and tourism integration, this paper sorts out the development foundation and characteristics of the whole industrial chain, analyzes prominent problems in cultural empowerment, industrial form integration and whole-chain coordination, and explores practical and forward-looking upgrading paths from five dimensions: consolidating the primary industry, increasing the value of the secondary industry, innovating the tertiary industry, integrating the whole chain, and constructing a guarantee system. It aims to boost the high-end, integrated and branded development of Heze's peony industry, build a national core area for the high-quality development of peonies, and provide practical references for invigorating industries through culture, invigorating cities through industries, and integrating industries and cities.

Keywords: Cultural and Tourism Integration; Heze Peony; Whole Industrial Chain; Upgrading Path; Rural Revitalization

DOI: 10.64216/3106-4620.26.01.004

Introduction

Through the in-depth penetration and two-way empowerment of culture and tourism, cultural and tourism integration realizes the transformation from a single industry to the symbiosis of diverse values, providing a new path for traditional characteristic industries to break through development bottlenecks. As a world core producing area of peonies, Heze boasts a thousand-year cultural accumulation of "Caozhou Peonies Topping the World", and peony culture has become the most recognizable regional symbol of the city. After decades of development, Heze's peony industry has formed a complete industrial chain pattern with "the primary industry as the foundation, the secondary industry as the core and the tertiary industry as the wing". The planting area exceeds 120,000 mu, covering 9 color systems and 1,308 varieties. The export of seedlings accounts for more than 90% of the national total, the number of deep-processed products reaches more than 260, and the annual output value exceeds 13 billion yuan.

In recent years, Heze has seized the opportunity of cultural and tourism integration, built festival brands such as the Peony Culture and Tourism Festival, cultivated characteristic cultural and creative industries, and constructed a number of theme cultural and tourism scenic spots. However, it still faces many shortcomings: the excavation of culture and industrial integration is superficial, the linkage among the primary, secondary and tertiary industries is insufficient, the supply of high-end products is scarce, the brand system is imperfect, and the support of science and technology and talents is weak. Based on this, this paper takes cultural and tourism integration as the starting point to explore the upgrading path of the whole industrial chain of the peony industry, promote its transformation from "scale advantage" to quality, brand and value advantages, and achieve the goal of "taking peonies as a medium, invigorating industries through peonies, invigorating cities through peonies and enriching people through peonies", providing reference for the transformation and upgrading of traditional characteristic industries in other regions.

1 Current Development of the Whole Industrial Chain of Heze Peony Industry from the Perspective of Cultural and Tourism Integration

Under the guidance of the cultural and tourism integration strategy, Heze's peony industry has gradually formed a development pattern of "culture leading, industry supporting, cultural and tourism integration and whole-chain linkage". All links have achieved breakthroughs, and the industrial scale and brand influence rank first in China.

1.1 Primary Industry: Consolidated Planting Foundation and Initial Effect of "Planting + Cultural and Tourism"

Heze has built the largest peony germplasm resource bank in China, collecting and preserving more than 1,900 varieties, independently cultivating varieties such as "Heze Red", with a stable planting area of more than 120,000 mu, forming an industrial belt in 8 districts and counties with separate layout for ornamental and production purposes. The annual export of seedlings reaches 2 million plants, sold to more than 30 countries and regions, supporting more than 85% of the national market; the annual sales of peony cut flowers reach 120 million branches and festival flowers reach 600,000 pots, laying the industrial center position of "purchasing from the whole country and selling to the whole world".

Cultural and tourism integration has promoted the transformation of planting bases to "production + viewing + experience". During the

Peony Culture and Tourism Festival every April, major planting gardens receive nearly 10 million tourists. Some bases have launched projects such as planting experience and flower art creation, built peony characteristic villages combined with rural tourism, driven the development of homestays and farm stays, and opened up a new path for the value improvement of the primary industry.

1.2 Secondary Industry: Upgraded Intensive Processing and Deepened Cultural Empowerment

Heze has cultivated more than 120 peony production, processing and export enterprises, including more than 30 large-scale enterprises. Leading enterprises such as Yaoshun Peony have led the development of more than 260 products in food, daily chemicals, biomedicine and other fields, sold to more than 30 countries and regions such as Europe, America, Japan and South Korea. Relying on the Peony Industry Technology Research Institute, it has united with more than 20 universities and research institutes, broken through core technologies such as supercritical essential oil extraction, and formulated a number of national and industrial standards.

Cultural empowerment has become an important development direction. Enterprises have integrated Caozhou peony patterns and poems into product packaging to create high-end souvenirs and cultural and creative gift boxes; some enterprises have opened processing workshops and launched experience projects such as pressing and stir-frying, realizing the triple value of "product + culture + experience", making deep-processed products a carrier of cultural communication.

1.3 Tertiary Industry: Diverse Cultural and Tourism Formats and Innovative Integration Modes

Heze has formed a cultural and tourism pattern of "festival leading, scenic spot supporting, cultural and creative empowerment and night supplement". It has successfully held 33 Peony Culture and Tourism Festivals and 6 World Peony Congresses. In 2024, the tourism festival received 9.8 million tourists and achieved a comprehensive income of 6.2 billion yuan. It has upgraded and transformed scenic spots such as Caozhou Peony Garden, integrated immersive experience and digital display, and launched real-scene performances; cultivated characteristic blocks such as Laocheng Caozhou, and built theme homestays and cultural and creative markets.

Juye meticulous brushwork peony painting has formed a complete industrial chain with an annual comprehensive output value of 4.5 billion yuan and a market share of more than 80%; created anime IPs such as "Dan Mengmeng" to promote the younger and digital communication of culture. In addition, integrating research study, health preservation, sports and other formats, it has launched research courses, essential oil SPA, flower sea marathon and other products, built consumption clusters such as night light shows, and extended the tourist stay time.

1.4 Whole-Chain Coordination: Established Integration Mechanism and Improved Industrial Ecology

Heze has issued a number of policy documents, incorporated the peony industry into the overall urban planning, and set up a special development fund. It has built a number of characteristic parks, promoted the agglomeration of industrial links, and realized resource sharing and upstream and downstream linkage. Through holding expositions and promotion meetings, it has built communication and trading platforms to promote in-depth cooperation among planting, processing, cultural and tourism and other entities. A cooperation mechanism of "enterprise + farmer + village collective" has been established to achieve win-win results for all parties through land transfer and contract farming, initially forming an industrial ecology led by culture and supported by science and technology.

2 Problems in the Development of the Whole Industrial Chain of Heze Peony Industry from the Perspective of Cultural and Tourism Integration

2.1 Superficial Cultural Excavation and Insufficient Industrial Integration Depth

Heze's peony culture contains multiple connotations, but its excavation and utilization lack systematicness, failing to organically combine with urban history and the Yellow River culture, only staying at the level of flower symbols. The path of cultural empowerment is single: the experience projects of the primary industry lack cultural connotation, the deep-processed products of the secondary industry have insufficient cultural packaging and brand stories, the tertiary industry has few immersive cultural experience projects, intangible cultural heritage skills have not been effectively transformed into consumer products, and cultural added value has not been fully released.

2.2 Weak Linkage Among the Three Industries and Low Whole-Chain Coordination Efficiency

All industrial links operate independently: the linkage between the primary and tertiary industries only stays at the ticket level, and experience projects are not combined with deep processing and cultural creation; the connection between the secondary and tertiary industries is not smooth, deep-processed products fail to be fully integrated into cultural and tourism consumption scenarios, and circulation channels are blocked; there is a lack of integrated design within cultural and tourism formats, new formats such as research study and health preservation are not deeply integrated with peony culture, and consumption scenarios are single.

2.3 Insufficient High-End Supply and Severe Homogenization of Products and Formats

The secondary industry is dominated by primary processed products, with a shortage of high-end biomedicine and functional products, insufficient industrialization of core technologies and severe product homogenization; the tertiary industry is still dominated by traditional sightseeing and festivals, lacking immersive and high-end products, shabby facilities such as theme homestays and health preservation bases, and weak design sense of cultural and creative products, which are difficult to meet the needs of consumption upgrading.

2.4 Imperfect Brand System and Insufficient Operation and Promotion Efforts

The image of Heze peony regional public brand is not clear, its binding with the urban brand is not deep, the communication methods are traditional, and the exposure on new media is low; brand management lacks unified standards, and some merchants abuse the brand, affecting

the reputation. The development of enterprise and product brands lags behind: most enterprises lack independent brands, international promotion efforts are insufficient, the export proportion of high value-added products is low, making it difficult to compete with international flower brands.

2.5 Insufficient Support of Science and Technology Talents and Weak Industrial Innovation Capacity

R&D investment is insufficient, core technology R&D needs to be broken through, and the application of digital technology in cultural and tourism is lagging behind; there is a shortage of compound talents with both professional knowledge and cross-border capabilities, including high-end R&D, design, cultural and tourism operation and international promotion talents, and the aging of intangible cultural heritage inheritors is serious, restricting industrial innovation and upgrading.

2.6 Lagging Infrastructure and Supporting Services

Some scenic spots have insufficient coverage of public transportation and shabby internal facilities such as roads and parking lots; the number and quality of basic service facilities such as tourist service centers and toilets are insufficient, and the sign system is imperfect; the quality of peony-themed catering and accommodation is uneven, the supply of high-end services is insufficient, the coverage of smart services is incomplete, resulting in a poor cultural and tourism consumption experience.

3 Upgrading Path of the Whole Industrial Chain of Heze Peony Industry from the Perspective of Cultural and Tourism Integration

3.1 Consolidate the Foundation of the Primary Industry: Promote the In-Depth Integration of "Planting + Cultural and Tourism + Rural Areas"

Optimize the planting spatial layout, build a pattern of core viewing areas, characteristic production areas and rural experience areas, and create a cultural and tourism landscape belt with flowers in all four seasons. Enrich agricultural experience formats, build planting experience parks and popular science bases, launch immersive experience projects, and break the restriction of flowering periods. Promote the coordinated development of peonies and peonies to extend the viewing and picking periods. Deepen the interest linkage of "enterprise + village collective + farmer", popularize ecological planting technologies, build peony pastoral complexes, and drive rural revitalization.

3.2 Enhance the Value of the Secondary Industry: Strengthen the Integration of "Processing + Culture + Science and Technology"

Increase investment in core technology R&D, set up interdisciplinary teams, focus on tackling key problems in high-end extraction, biomedicine and other fields, and promote the industrialization of scientific and technological achievements. Integrate peony culture into the whole process of product R&D, design and packaging, develop high-end souvenirs and customized products, and invite intangible cultural heritage inheritors to participate in design. Open processing workshops, build experience bases, launch immersive production projects, and set up experience stores in cultural and tourism scenarios. Cultivate deep-processing industrial clusters, strengthen the construction of quality standard systems, and enhance industrial competitiveness.

3.3 Innovate the Tertiary Industry Formats: Deepen the Integration of "Cultural and Tourism + Peony + Diverse Formats"

Create high-end immersive experience projects, upgrade traditional scenic spots, build immersive experience halls and intangible cultural heritage workshops, and launch products such as script murder and real-scene performances. Promote the integration of "peony + research study", "peony + health preservation", "peony + sports" and "peony + digital", and develop research courses, health preservation projects, sports activities and digital cultural and creative products. Build a full-scenario consumption system, upgrade characteristic blocks, activate night consumption, and launch high-quality rural tourism routes. Improve cultural and tourism supporting facilities, upgrade basic services, build theme catering and accommodation, construct a smart cultural and tourism platform, and realize seamless online and offline connection^[1].

3.4 Promote Whole-Chain Coordination: Construct a Tri-Industrial Linkage Mechanism Led by Cultural and Tourism

Build a whole-chain integrated development platform, promote the settlement of planting, processing, cultural and tourism and other entities, and realize resource sharing and online and offline linkage. Create a core integration model of "peony + planting + processing + cultural and tourism", expand the integration of diverse formats, and promote the combination with local resources such as the Yellow River culture. Establish a stable cooperation mechanism to realize in-depth linkage between planting bases and scenic spots, processing enterprises and cultural and tourism merchants, and cultural and tourism enterprises and rural areas. Promote the integration of industry and urban development, integrate peony culture into urban construction, build a global tourism brand, and realize the integration of industry and city.

4 Construction of the Guarantee System for the Whole Industrial Chain Upgrading of Heze Peony Industry

4.1 Construct a Multi-Level Brand System and Strengthen Operation and Promotion

Strengthen the construction of regional public brands, clarify cultural connotations, and formulate usage standards and management norms. Innovate communication methods and build a new media communication matrix. Cultivate leading enterprise brands and

characteristic product brands, support leading enterprises such as Yaoshun Peony and Longchi Peony to grow stronger, build market-competitive enterprise brands, promote the in-depth integration of enterprise brands and peony culture, endow enterprise brands with distinct cultural characteristics, and support enterprises to take the path of specialization, refinement, differentiation and innovation. Increase international promotion efforts, build platforms relying on the "Belt and Road", formulate localized strategies, and cultivate cross-border e-commerce enterprises^[2].

4.2 Strengthen Scientific and Technological Support and Promote Digital Integration

Set up a special fund for scientific and technological R&D, integrate R&D resources, establish a national R&D center, and promote key core technology research and achievement transformation. Popularize smart planting in the primary industry, realize intelligent production in the secondary industry, build smart scenic spots and digital experience platforms in the tertiary industry, and improve the digital level of the industry. Promote the industrialization of scientific and technological achievements, build a transformation platform for scientific and technological achievements, establish a transformation center for scientific and technological achievements of the peony industry, promote the accurate docking of R&D achievements of universities and research institutes with enterprises, and realize the rapid industrialization of scientific and technological achievements; support enterprises to carry out industry-university-research cooperation with research institutes, jointly build R&D platforms and pilot test bases, and accelerate the transformation of scientific and technological achievements from the laboratory to the market.

4.3 Strengthen Talent Cultivation and Introduction and Build a Professional Team

Cooperate with universities to set up relevant majors and courses, carry out skill training, and implement the training plan for intangible cultural heritage inheritors. Formulate policies for introducing high-end talents to attract core R&D, cultural and tourism operation and other talents. Build maker spaces and incubation bases, hold design and planning competitions, and stimulate the innovation vitality of talents.

4.4 Strengthen Policy Support and Optimize the Development Environment

Firstly, improve the policy system for the development of the peony industry, issue targeted and forward-looking policy documents, formulate policy measures covering planting, processing, cultural and tourism, integrated development, brand building, talent cultivation and other aspects around the upgrading of the whole industrial chain of the peony industry, and clarify the goals, directions and guarantee measures for industrial development; strengthen the implementation of policies, establish a supervision mechanism for policy implementation, and ensure that all policy measures are put into effect^[3].

Secondly, increase capital investment and guarantee, broaden industrial financing channels, set up a special development fund for the peony industry, and provide capital subsidies and policy support for leading enterprises, R&D projects, cultural and tourism projects, brand promotion and so on. Encourage social capital to participate in the development of the peony industry, attract social capital such as central enterprises and private enterprises to invest in Heze's peony industry through PPP models and investment promotion, and form a diversified financing system led by the government, dominated by enterprises and participated by the society.

Thirdly, optimize the business environment for industrial development, improve the efficiency of government services, deepen the reform of streamlining administration, delegating power, improving regulation and optimizing services, simplify the approval process of peony industry projects, and improve the efficiency of government services. Strengthen market supervision, standardize market order, severely crack down on counterfeiting and shoddy goods, false publicity, brand abuse and other acts, protect the legitimate rights and interests of enterprises and consumers, and create a fair competition and standardized market environment^[4].

4.5 Strengthen Market Supervision and Industrial Self-Discipline

Firstly, establish and improve the quality standard system of the peony industry, formulate quality standards and service norms covering all links of peony planting, processing, cultural and tourism, cultural and creative industries, clarify the requirements for product quality, service level, safety standards and so on, and realize the standardized development of the peony industry; strengthen the construction of quality certification system, promote peony products to obtain green food, organic food, geographical indication product and other certifications, and improve the market recognition of products.

Secondly, strengthen market supervision, intensify the supervision of product quality and safety, establish a quality traceability system for peony products, use blockchain, big data and other technologies to realize the whole-process traceability of peony products from planting, processing to sales, and ensure product quality and safety. Strengthen the supervision of cultural and tourism service quality, establish a cultural and tourism service quality evaluation system, conduct regular evaluation and supervision on the service quality of cultural and tourism scenic spots, homestays and merchants, and improve the level of cultural and tourism services^[5].

Thirdly, strengthen industrial self-discipline and promote the standardized development of enterprises. Establish the Heze Peony Industry Association, covering enterprises and practitioners in all fields such as planting, processing, cultural and tourism, and cultural creation, formulate industrial self-discipline conventions, and guide enterprises to operate in a standardized and honest manner. Organize enterprises to carry out skill training, market promotion, brand building and other activities to enhance the overall competitiveness of the industry.

5 Conclusion

Cultural and tourism integration provides a key opportunity for the transformation and upgrading of Heze's peony industry. Heze has a thousand-year peony cultural accumulation and a leading industrial scale in China, with inherent advantages for the upgrading of the whole industrial chain. By consolidating the foundation of the primary industry, enhancing the value of the secondary industry, innovating the tertiary industry formats, promoting whole-chain coordination, and constructing a comprehensive guarantee system for brands, science and

technology, talents, policies and supervision, the peony industry can achieve high-end, integrated and branded development.

This upgrading can not only enhance the core competitiveness and international influence of the industry, promote the living inheritance of peony culture, but also boost rural revitalization and industry-city integration, enabling Heze to achieve the goal of "invigorating industries through peonies, invigorating cities through peonies and enriching people through peonies", and providing a useful reference for the transformation and upgrading of traditional characteristic industries across the country with the help of cultural and tourism integration. It is believed that with the in-depth advancement of cultural and tourism integration, Heze's peony industry will break through development bottlenecks and make the thousand-year Caozhou peonies bloom with new splendor in the new era.

References

- [1] Gao R, Chen H, Wei C, et al. Research Hotspots and Trends in the Environment Condition of the Yellow River Basin (2014 - 2024): A Bibliometric and Visualization[J]. *Water*, 2024, 16(17): 2359-2359.
- [2] Jin Y, Xi H, Wang X, et al. Evaluation of the integration policy in China: Does the integration of culture and tourism promote tourism development?[J]. *Annals of Tourism Research*, 2022, 97: 103491.
- [3] Wang M, Wang X. A study of eco-culture-tourism coupling and coordinated development and influencing mechanism in the Yellow River Basin based on spatial production theory[J]. *Ecological Indicators*, 2025, 176: 113689.
- [4] Guo Y. Z-Number TODIM-EDAS Decision-Making Framework for Cultural Tourism Competitiveness Evaluation in the Yellow River Basin[J]. *International Journal of Fuzzy System Applications (IJFSA)*, 2024, 13(1): 1-22.
- [5] Loulanski T, Loulanski V. The sustainable integration of cultural heritage and tourism: A meta-study[J]. *Journal of sustainable tourism*, 2011, 19(7): 837-862.