

Digital Empowerment and Format Reshaping: The Realization Logic and Model Analysis of the Deep Integration of "Sports + Tourism" in Qingyuan

Haiting Shao, Dongjin He *

Department of Physical Education, Guangdong University of Finance, Guangzhou, China

* Corresponding author: Dongjin He

Abstract: Against the backdrop of the converging "Digital China" and "Healthy China" strategies, digital empowerment is becoming a key variable driving the "sports + tourism" industry from superficial superposition to deep integration. This paper, taking the typical eco-resource city of Qingyuan as an analytical blueprint, aims to explore how digital technology reconstructs the integration mechanism of "sports + tourism" and what new business formats it engenders. Based on the theoretical perspectives of digital empowerment and industrial integration, and adopting a research paradigm of logical deduction and qualitative analysis, this study discerns the intrinsic logic by which digital empowerment reshapes industrial integration. The study posits that the realization logic of digital empowerment is not a simple technological superposition but a systematic deconstruction of traditional industrial boundaries and a reshaping of the underlying driving forces of integration through four core dimensions: "experience reconstruction," "value reconstruction," "space reconstruction," and "organization reconstruction." Building on this logic, the paper further refines four potential models for the "sports + tourism" format reshaping in Qingyuan: the "Smart+" experience-based integration model, the "IP+" content-based integration model, the "Platform+" ecosystem-based integration model, and the "Data+" health & wellness integration model. Finally, the paper identifies four major obstructions to this integration logic in practice—the "digital divide," "data silos," "regulatory lag," and "content scarcity"—and proposes countermeasures to clear these logical blockages and cultivate new formats, focusing on solidifying the digital foundation, activating data factors, innovating inclusive governance, and strengthening content-driven strategies. This research provides a theoretical framework and practical mirror for Qingyuan and similarly-situated cities to grasp transformation opportunities and cultivate new industrial drivers in the digital age.

Keywords: Digital Empowerment; Format Reshaping; Sports + Tourism; Industrial Integration; Realization Logic; Qingyuan City.

1. Introduction

The "14th Five-Year Plan" outline explicitly proposes to "promote the high-quality development of the sports industry," "promote the quality upgrading and expansion of consumption such as culture, tourism, and sports," and places "accelerating digital development" at the core of the national strategy. This macro-level layout signifies a historical convergence at a higher level between the industrial integration of "sports + tourism" and the national strategy of the "digital economy." Both the sports and tourism industries are crucial carriers for satisfying the people's needs for a better life, and their integration possesses natural complementarity and vast market prospects. However, for a long time, the "sports + tourism" integration in most regions of China has remained at a shallow superposition stage, such as "sports sightseeing" (e.g., visiting stadiums) or "tourism + sports activities" (e.g., rock climbing facilities in scenic spots). Issues such as rigid industrial boundaries, short value chains, severe product homogenization, and one-dimensional experiences are widespread.

The rapid development of the digital economy provides a revolutionary opportunity to crack these dilemmas. Digital technologies, represented by big data, artificial intelligence (AI), the Internet of Things (IoT), 5G, and VR/AR, are acting as a "General Purpose Technology" (GPT), empowering socio-economic transformation with unprecedented permeability, connectivity, and intelligence. Digital

technology is not merely a tool for efficiency enhancement but a core driving force for reshaping industrial logic, deconstructing traditional boundaries, and catalyzing new business formats. When digital empowerment intervenes in the "sports + tourism" integration field, it triggers not just an iteration of product forms, but a fundamental transformation of the integration mechanism itself.

As the "back garden" and northern ecological barrier of the Guangdong-Hong Kong-Macao Greater Bay Area, Qingyuan City possesses unique sports tourism resources, represented by the "Hometown of Rafting in China" (e.g., Gulong Gorge, Huangteng Gorge), along with abundant complementary resources such as mountains, forests, hot springs, and ethnic culture (the Yao people). This provides a unique "resource endowment" for the deep integration of "sports + tourism." However, Qingyuan also faces the transformational pains typical of a resource-dependent city: on one hand, there is a strong path dependency on flagship products like rafting, and the digitization, diversification, and intellectualization of the sports tourism product system urgently need upgrading. On the other hand, industrial development is significantly affected by seasonality, creating a pressing need to expand experiential time and space and innovate product supply through digital means to achieve high-quality, sustainable development.

Against this backdrop, an in-depth exploration of the "realization logic" and "model analysis" for the deep integration of "sports + tourism" in Qingyuan holds

significant theoretical and practical value. To date, academic discussion on related topics has begun to take shape but faces certain limitations: existing research tends to focus either on the empowerment paths of digital technology on a single industry (such as sports or tourism), the traditional integration models of "sports + tourism", or the macroeconomic effects of the digital economy. However, few studies have taken "digital empowerment" as the core independent variable to systematically, qualitatively, and deeply analyze how it reconfigures the "internal logic" of "sports + tourism" integration, and subsequently deduces the possible models of "format reshaping" based on this logic.

Therefore, this paper, using Qingyuan as a typical case and strictly adhering to a non-quantitative research paradigm, aims to answer two core questions through theoretical reflection and logical deduction: First, what is the "realization logic" of digital empowerment for the deep integration of "sports + tourism" in Qingyuan? That is, how does technology permeate from the surface to the underlying structure to reconfigure the intrinsic mechanisms of integration? Second, driven by this logic, what forward-looking "new models" of "format reshaping" are emerging for "sports + tourism" in Qingyuan? This study attempts to construct a theoretical analysis framework from "empowerment mechanism" to "format reshaping," aiming to provide decision-making references for Qingyuan to seize digital opportunities and cultivate new industrial drivers, while also offering a theoretical mirror for industrial transformation in cities of a similar type.

2. Theoretical Foundations: A Logical Dissection of Digital Empowerment and Industrial Integration

2.1. Digital Empowerment: From "Tool-ism" to "Factor-ism" and "Reconfiguration-ism"

The term "empowerment," originating from sociology, initially referred to the granting of ability or power to an individual or group. In the context of the digital economy, the connotation of "digital empowerment" far exceeds the "tool-ism" scope of "technology application" or "informatization." This paper argues that digital empowerment entails at least three logically progressive meanings:

First, empowerment as an "efficiency tool." This is the use of digital technology to optimize traditional business processes, reduce information asymmetry, and enhance operational efficiency. This is empowerment at its most superficial layer, such as online ticketing systems for scenic spots or electronic timing for sports events.

Second, empowerment as a "key factor." The core of the digital economy is the establishment of "data" as the "fifth factor of production" [1], following land, labor, capital, and technology. Data possesses characteristics such as non-rivalry, replicability, and infinite supply. The deeper meaning of digital empowerment lies in activating the value of the data factor. Through the collection, transmission, storage, analysis, and application of data, it drives product innovation, precision marketing, and scientific decision-making.

Third, empowerment as a "reconfiguring force." This is the highest level of empowerment. Digital technology (especially platform technology), as a powerful connector and deconstructor, can break down the inherent boundaries of

traditional industries, reorganize production relations, and reinvent value networks [2]. It is no longer a "reformist" of the original system, but the "creator" of a new one.

The "digital empowerment" discussed in this paper is a comprehensive concept covering all three meanings, with its core pointing to "reconfiguration"—that is, how digital technology systematically reconfigures the underlying logic of "sports + tourism" integration.

2.2. Industrial Integration: From "Shallow Superposition" to "Deep Fusion"

Industrial convergence, first proposed by Rosenberg, refers to the phenomenon where the boundaries between different industries, or different segments of the same industry, become increasingly blurred, leading to mutual intersection, penetration, and integration [3]. In the service sector, industrial integration is the primary path to enhancing industrial value-added and meeting consumers' integrated demands.

The integration of "sports + tourism" also exists at different levels. Shallow integration (the "+" model) is "industrial superposition," i.e., the simple juxtaposition of the sports and tourism industries in space or product, such as a "scenic spot + rafting project" or an "event + sightseeing tour." Its essence is a "physical connection" between two industries, with their value chains remaining independent.

Deep fusion (the "x" model) is "industrial amalgamation," a "chemical reaction" between the two industries. It requires the integration of sports elements and tourism elements at the supply end, demand end, value chain, spatial, and even organizational levels. For example, in a marathon event, its course design (tourism element), urban landscape (tourism element), and cultural experience (tourism element) are inseparable from the event organization (sports element) and competitive spirit (sports element). Together, they constitute a complete product experience, and its value is a "multiplier effect," not an "additive effect."

Digital empowerment is the key catalyst driving "sports + tourism" from shallow superposition to deep fusion. The extreme connectivity and data analyzability brought by digital technology make it possible to break through element barriers that were originally difficult to connect (such as sports data and tourism preferences), providing the technical prerequisite for deep fusion.

3. The Realization Logic: Intrinsic Mechanisms of Digital Empowerment in Qingyuan's "Sports + Tourism" Deep Integration

Digital empowerment is not simply about applying digital technology to Qingyuan's rafting or mountains. Instead, it reconfigures the realization logic of "sports + tourism" integration through a series of profound intrinsic mechanisms. This paper categorizes them into four dimensions: "experience reconstruction," "value reconstruction," "space reconstruction," and "organization reconstruction."

3.1. Experience Reconstruction: From "Scene Perception" to "Immersive Interaction"

The core of traditional sports tourism is "scene perception," where tourists gain a unique physical experience in a specific

physical space (like a rafting river or a hiking trail). This experience is instantaneous, localized, and non-replicable. Digital empowerment fundamentally reshapes this experience.

First, digital technology enables "experience virtualization and precedence." Before departure, tourists can use VR/AR technology to "immersively" experience the thrill of rafting at Qingyuan's Gulong Gorge or "virtually" hike the mountain tea gardens of Yingde. This significantly reduces decision-making costs and stimulates consumption desire.

Second, digital technology enriches the "experience process." During the sports tourism activity, smart wearables, AR navigation, and 5G+drone follow-cam technologies capture and present an integrated, real-time feed of the tourist's sports data (heart rate, speed, calories), environmental data (altitude, slope, hydrology), and imaging data (HD video, VR panorama). This upgrades the experience from a singular "physical perception" to a "data-fied, visualized, shareable" multidimensional interaction.

Third, digital technology extends the "experience after-effect." By automatically generating personalized short videos, electronic certificates, or "digital collectibles" (NFTs) from the process data (like GPS tracks, highlight moments), the tourist's experience is solidified, extended, and made easily shareable on social media. This transforms the "experience" into "social capital."

3.2. Value Reconstruction: From "Ticket Economy" to "Pluralistic Value Network"

The value realization of traditional sports tourism relies heavily on the "ticket economy" or "event economy," i.e., on-site payments by tourists or spectators. This model has a short value chain, a low ceiling, and is severely constrained by time and space (such as scenic area capacity or event cycles). Digital empowerment shatters this linear value chain, constructing a "pluralistic value network."

First is the prominence of "content value." Qingyuan's sports tourism IPs (like rafting, Yao sports) are themselves high-quality content. Through 5G live streaming, short videos, and VR games, the reach of these IPs is infinitely amplified. "Content payment" or "live-stream e-commerce" (selling local specialties, sports equipment) becomes a new value growth point.

Second is the excavation of "data value." Tourists generate massive amounts of behavioral, health, and consumption data during their digital sports tourism. Deep analysis of this data can, in turn, feed the supply side for product iteration and precision marketing. The data itself becomes a core asset that can be traded and appreciated [4].

Third is the realization of "long-tail value." Digital platforms enable Qingyuan's small and micro sports tourism suppliers (like boutique B&Bs, niche hiking routes, rural sports coaches) to access the national market at a low cost, meeting the personalized demands of niche markets and activating the "long-tail value" overlooked by traditional models.

3.3. Space Reconstruction: From "Physical Field" to "Cyber-Physical Hybrid Space"

Traditional sports tourism is "space-locked"; it requires the person to be "on-site." Digital empowerment constructs a "cyber-physical hybrid space," achieving spatio-temporal expansion.

On the one hand, digital technology drives the "intellectualization of physical space." By deploying IoT

sensors (monitoring hydrology, weather, tourist flow), smart navigation piles, and 5G base stations along Qingyuan's rafting rivers and hiking trails, the traditional physical space is endowed with capabilities for real-time perception, intelligent dispatch, and agile response—in essence, creating a "digital twin" of the physical space.

On the other hand, digital technology creates "purely digital space." For example, hosting an "online virtual marathon" based on 3D modeling of the Qingyuan marathon course, or creating a "metaverse" version of a Qingyuan rafting scenic spot. This allows sports tourism to transcend the limitations of physical capacity and seasonality, achieving "all-time" operation and creating new incremental markets. The physical and digital fields mutually drive traffic and share data, forming a new spatial carrier for integrated development.

3.4. Organization Reconstruction: From "Isolated Enterprises" to "Platform-Centric Ecosystem"

The supply actors in traditional sports tourism are isolated enterprises (scenic spots, hotels, travel agencies), interconnected by linear, loose supply chain relationships. Digital empowerment, especially the rise of the platform economy, reconfigures this organizational form [5].

Digital platforms (such as OTAs, short video platforms, sports & health apps), leveraging their advantages in data, traffic, and algorithms, become the central hubs of industrial organization. Qingyuan's various sports tourism suppliers (rafting spots, B&Bs, outdoor clubs) all "go on the platform," transforming from independent "islands" into "nodes" in a platform ecosystem.

This "platform-centric ecosystem" reconfigures organizational logic: First, it achieves "real-time matching" and "dynamic optimization" of supply and demand, drastically improving resource allocation efficiency. Second, the platform, through data analysis and rule-setting, dominates the industry's value distribution and innovation direction. Third, it enables local SMEs in Qingyuan to "co-exist" with large platforms, gaining traffic while also facing the challenges of "algorithmic lock-in" or "platform take rates."

4. Format Reshaping: An Analysis of New Models for Qingyuan's "Sports + Tourism" Digital Fusion

Driven by the four "reconstruction" logics, the format reshaping of "sports + tourism" in Qingyuan reveals four forward-looking potential models. These models are the product of combining digitization with Qingyuan's local resource endowments.

4.1. The "Smart+" Experience-based Integration Model

Core Logic: To deeply intervene in and optimize the physical experience flow of "on-site" sports tourism using digital technology, achieving "Experience as a Service, Intelligence as Safety."

Key Technologies: 5G, IoT, Artificial Intelligence (AI), AR/VR, Drones.

Qingyuan Scene Analysis: This is a direct upgrade to Qingyuan's existing flagship products (like rafting and hiking).

Smart Rafting: Tourists use smart wristbands for real-time

monitoring of heart rate and location. Drones + 5G provide HD follow-cam footage and one-click rescue. River sensors monitor hydrology and obstacles in real-time, while an AI system intelligently dispatches water releases and diverts flows, ensuring both an ultimate experience and absolute safety.

Smart Hiking: On hiking routes in Yingde's mountains/tea gardens, AR navigation markers are deployed. Tourists scanning with their phones see superimposed route guidance, flora/fauna facts, and historical legends. Smart trails automatically record tourists' sports data, linking with wellness stations (like hot springs) along the route.

Smart Scenic Area Management: AI-powered tourist flow analysis enables "reservation-based" and "time-slot" entry, optimizing resource allocation. Smart security systems automatically monitor and issue alerts for dangerous areas (like undeveloped waters).

4.2. The "IP+" Content-based Integration Model

Core Logic: To deeply excavate Qingyuan's unique sports and cultural IPs (like rafting culture, Yao sports culture) and realize "traffic attraction via IP, monetization via content" through digital content creation and web-wide dissemination.

Key Technologies: 5G + 4K/8K Live Streaming, Short Video Production, VR Game Development, Digital Collectibles (NFTs), Social Media Marketing.

Qingyuan Scene Analysis:

Event IP Live-streaming: Upgrade events like the Qingyuan International Marathon and Rafting Competitions from "local events" to "global live-streaming spectacles." By using multi-camera, drone, and first-person-view (worn by athletes) live streams, combined with real-time AR data overlays (like athlete's heart rate, pace), it provides online audiences with a viewing experience far superior to being on-site, driving global brand exposure for the city via "cloud-watching."

Cultural IP Gamification: Deeply explore the traditional sports of the Liannan Yao people, such as the "Shagetang" festival and "Qianghuapao" (scrambling for the flower cannon). Cooperate with game companies to develop mobile or VR experience games, allowing global users to experience Yao sports culture through "play," thereby driving traffic for on-site experiences in Qingyuan.

Moment IP Assetization: Produce "digital collectibles" (NFTs) from the exciting moments of rafting or the unique scenes of Yao sports, and release them on compliant platforms. This is not only a new marketing hook but also a new channel for IP value monetization [6].

4.3. The "Platform+" Ecosystem-based Integration Model

Core Logic: To shift from "fighting alone" to "developing as a cluster" by building a vertical digital platform for Qingyuan's "sports + tourism" sector, integrating all supply-side elements to provide "one-stop" smart services.

Key Technologies: Cloud Computing, Big Data, SaaS (Software as a Service), Mobile Payment, LBS (Location-Based Services).

Qingyuan Scene Analysis:

Build a "Qingyuan Sports-Tourism Pass" Super-App/Mini-Program: This platform, led by the government or guided by leading enterprises, integrates all of Qingyuan's suppliers: scenic spots, hotels, B&Bs, events, outdoor clubs, equipment

rental shops, farm-to-table restaurants, and transportation.

For C-side (Tourists): Provide full-process services including "information query, smart itinerary planning, one-click booking, one-code access, health monitoring, social sharing, and emergency rescue."

For B-side (Merchants): Provide low-cost SaaS tools (like order management, membership systems, online marketing) to SMEs, helping them achieve digital transformation. The platform uses big data analysis to guide B-side merchants in optimizing products and services [7].

For G-side (Government): The real-time operational data aggregated by the platform directly docks with the government's "Industrial Brain," enabling market monitoring and agile governance.

4.4. The "Data+" Health & Wellness Integration Model

Core Logic: To fully leverage Qingyuan's ecological and wellness resources (like hot springs, forests, high-quality air), using "sports and health data" as the link to achieve deep, cross-border integration of the sports, tourism, and health industries.

Key Technologies: Smart Wearables, Health Big Data Analysis, AI Health Consultants, Telemedicine.

Qingyuan Scene Analysis:

"Exercise Prescription + Wellness Tourism" Packages: Tourists authorize the provision of their daily sports and health data (e.g., from a smart band) on an online platform (like the Super-App). An AI system then automatically generates a "Qingyuan Sports & Wellness Prescription" based on their health status and exercise preferences.

Prescription Content: For example, a "3-Day, 2-Night Lung Cleansing & Rejuvenation Trip" = "10km low-intensity hike on Yingde's forest trail" + "2 sessions of Fogang hot spring therapy" + "local organic dietary conditioning."

Closed-Loop Service: During the tourist's stay in Qingyuan, smart devices monitor their sports and physiological indicators in real-time. The data is synchronized with a wellness consultant (or AI assistant), allowing for dynamic adjustments to the personalized plan. This model transforms Qingyuan from a "one-time" sightseeing spot into a "recurring" health management destination [8].

5. Real-World Dilemmas: Logical Obstructions in Qingyuan's "Sports + Tourism" Deep Integration

Although the theoretical logic is clear and the potential models are attractive, in Qingyuan's reality, the logical chain of digital empowerment and format reshaping faces "obstructions" and "breakpoints" at multiple links.

5.1. Digital Divide and Cognitive Barriers: The "Weak Foundation" of Integration

The prerequisite for digital empowerment is the popularization of digital infrastructure and the digital cognition of market actors.

First, the coverage of digital infrastructure (like 5G base stations, fiber optic networks) is uneven across Qingyuan's districts and counties. "Blind spots" in network signals still exist, especially in remote rural tourism spots and mountainous sports areas, making the "Smart+" model difficult to implement.

Second, the cognitive divide is enormous. Large rafting

attractions have the motivation and capital for digital transformation, but the vast number of SMEs that form the "capillaries" of Qingyuan's tourism (like B&Bs, farm-to-table restaurants, small outdoor clubs) still have a digital cognition stuck at "opening an online shop" or "making short videos." They lack systematic digital operation capabilities and the willingness to transform, exhibiting a "digital poverty" of "can't transform, aren't transform, and can't afford to transform."

5.2. Data Silos and Factor Rigidity: The "Blocked Bloodstream" of Integration

Data is the "lifeblood" of the digital economy. But currently, Qingyuan's data factors are in a state of "arterial thrombosis."

First, "horizontal silos." Data from departments like sports, culture & tourism, transportation, meteorology, health, market supervision, and public security are fragmented, with inconsistent standards and unclear rights and responsibilities, leading to a forest of "data chimneys." The government cannot form a panoramic insight into the "sports + tourism" industry, leaving the "Platform+" ecosystem model and the "Industrial Brain" without public data support.

Second, "vertical silos." There are huge barriers between government data, platform data (like OTAs), and enterprise data (like scenic spot tourist flow). Enterprises view data as core commercial secrets and are unwilling to share, while the government's data openness is limited. This makes models like "Data+" wellness, which require public-private data fusion, difficult to achieve. Data cannot flow freely and be optimally allocated as a factor of production among industries [9].

5.3. Format Innovation and Regulatory Lag: The "Insufficient Space" for Integration

Digital empowerment inevitably gives rise to new business formats, which often exist outside traditional regulatory frameworks, leading to a structural conflict between "innovation and regulation."

For example, the digital collectibles (NFTs) in the "IP+" model involve financial risks; the drone follow-cams in the "Smart+" model involve low-altitude airspace management and privacy issues; the health data collection in the "Data+" model involves sensitive ethical and data security issues.

Qingyuan has not yet established a set of "agile governance" or "inclusive and prudent" regulatory systems adapted to the digital economy. Regulators are accustomed to the "red light" thinking of "ex-ante approval" rather than the "green light" thinking of "in-process supervision." This regulatory lag makes market actors "tie their own hands and feet" when exploring new formats, fearing that "one wrong step will ruin the whole game," which greatly suppresses the vitality of format reshaping.

5.4. Brand Homogenization and Content Scarcity: The "Empty Soul" of Integration

Digital empowerment is only the "means"; the "soul" of industrial integration lies in unique content and branding.

Currently, Qingyuan's "sports + tourism" digital marketing still suffers from homogenization. An over-reliance on the "rafting" IP has led to a monolithic brand image, making it difficult to attract the new generation of consumers who seek diversity and personalization.

In the "IP+" content model, there is a shortcoming of "having IP but no operation." The excavation of Yao sports

culture and Yingde black tea (outdoor) culture remains superficial, failing to transform them into highly attractive and communicable digital content (like high-quality documentaries, games, or animations). Digitization is relegated to being a simple "porter" (moving offline content online) rather than a "creator," leading to a greatly diminished empowerment effect.

6. Path Suggestions: Clearing Logical Blockages and Cultivating Reshaped Formats

To address the four major "logical obstructions" above, Qingyuan must adopt systematic countermeasures to "unblock" the empowerment paths and "cultivate" new formats, thereby achieving the deep integration and high-quality development of "sports + tourism."

6.1. Solidify the Digital Foundation: Breaking the "Digital Divide" and "Cognitive Barriers"

This is the "foundation" of integration. First, accelerate the "precision coverage" of digital new infrastructure. Target key sports tourism areas (scenic spots, trails, rural areas) and accelerate the deployment of 5G base stations and IoT sensors in a model of "government guidance, tower company coordination, and enterprise co-construction," achieving "seamless network roaming." Second, conduct large-scale "digital literacy" and "empowerment training." The government should purchase services, commissioning professional institutions, universities (like the Provincial Vocational Education City), and platform companies to provide free, practical digital operation training (e.g., short video marketing, SaaS tool usage, online customer service) for SME owners, enhancing their digital "blood-generating" capability.

6.2. Activate Data Factors: Dismantling "Data Silos" and "Factor Fences"

This is the "lifeblood" of integration. First, forcefully promote the convergence and sharing of "public data." Led by the construction of the "Industrial Brain" and spearheaded by high-level city government, forcefully break down departmental barriers. Formulate the "Qingyuan Sports-Tourism Public Data Sharing Catalog" and "Data Return Mechanism," mandating the "unconditional collection" of data from culture, tourism, sports, transportation, meteorology, and public security (tourist flow). Second, explore the compliant fusion of "government-enterprise data." While ensuring data security and privacy, explore models like "data trusts" and "data available but not visible." Establish data cooperation with OTA platforms and telecom operators to achieve the fusion analysis of "public-private data," providing support for models like "Data+" wellness [9].

6.3. Innovate Inclusive Governance: Responding to "Regulatory Lag" and "Innovation Risks"

This is the "shield" of integration. First, establish a "regulatory sandbox" system. Designate specific areas in Qingyuan (like high-tech zones, specific scenic spots) as "Digital Sports-Tourism Innovation Labs." For new formats like "IP+" digital collectibles or "Smart+" drone applications,

allow them to "commit and try first" within the sandbox. Regulators shift from "approvers" to "observers" and "coaches," working with enterprises to set industry standards under controllable risks, achieving "promoting development through security." Second, build an "agile governance" response mechanism. Establish a cross-departmental "New Format Joint Assessment Group" to quickly analyze new models emerging in the market and issue "regulatory guidelines" in a timely manner, avoiding both "one-size-fits-all" shutdowns and "long-term inaction," thus providing a predictable institutional space for format reshaping.

6.4. Strengthen Content and IP-Driven Strategies: Enriching the "Brand Homogenization" and "Content Scarcity"

This is the "soul" of integration. First, implement the "Qingyuan Sports-Tourism IP Digitization Project." The government should set up special funds to support local enterprises, universities, and global creators in producing high-quality digital content (VR games, micro-films, animations) centered around core IPs like "rafting," "Yao ethnicity," "mountains," and "hot springs." Second, promote the integration of "content-technology-tourism." Encourage tech companies (like AR/VR firms) to collaborate deeply with Qingyuan's culture, tourism, and sports enterprises, transforming high-quality content into experiential and interactive "Smart+" products, upgrading from "watching content" to "playing with content." Third, build an "all-domain brand" digital marketing matrix. While consolidating the "rafting" brand, vigorously promote new brands like "mountain outdoors" and "Yao wellness," achieving "differentiated" brand reach to different consumer circles through big data precision delivery.

7. Conclusion and Outlook

The wave of the digital economy provides a historical opportunity for traditional resource-based tourism cities like Qingyuan to "change lanes and overtake" in the "sports + tourism" industry. However, digital empowerment is not a simple application of technology but a comprehensive and systematic reconstruction involving experience, value, space, and organization.

Through a qualitative analysis of the deep integration of "sports + tourism" in Qingyuan, this paper has constructed a theoretical framework from "empowerment logic" to "format reshaping." The study posits that the realization logic of digital empowerment manifests through four intrinsic mechanisms: "experience reconstruction" (from perception to interaction), "value reconstruction" (from tickets to a value network), "space reconstruction" (from physical to hybrid), and "organization reconstruction" (from islands to an ecosystem). The evolution of these four logics catalyzes four potential models for format reshaping in Qingyuan's "sports + tourism" sector: the "Smart+" experience-based, "IP+" content-based, "Platform+" ecosystem-based, and "Data+" health & wellness-based models.

However, this ideal logic is obstructed in reality by four major dilemmas: the "digital divide," "data silos," "regulatory lag," and "content scarcity." To this end, Qingyuan must exert precise efforts in four areas: "solidifying the digital foundation," "activating data factors," "innovating inclusive governance," and "strengthening content and IP-driven strategies," to systematically clear the "obstruction points" in

the integration logic.

The theoretical contribution of this study lies in moving beyond "technology-application" linear thinking. From a "reconfiguration-ist" perspective, it systematically reveals the intrinsic mechanisms of digital empowerment in industrial integration and constructs a blueprint of future-oriented business format models. Its practical value lies in providing an operational transformation diagnostic tool and strategic path reference for Qingyuan and similarly-situated resource-based cities.

Of course, as this study is based on qualitative analysis and logical deduction, the models it refines are still in a "potential" stage. Their degree of realization and specific benefits await the test of future practice. Future research could further explore: the coupling and symbiotic relationships between different format models; the interest-gaming and benefit-distribution mechanisms between traditional enterprises and digital platforms during the format reshaping process; and the specific paths for value assessment and market-based trading of data factors in "sports + tourism" integration.

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References

- [1] Xi Jinping. Speech at the symposium on solidly promoting the integrated development of the Yangtze River Delta [N]. People's Daily, 2023-12-02(01).
- [2] Zhang Ling, Liu Bingxin. The logical rationale and practical path of digital economy empowering the high-quality development of the sports industry [J]. Sports Journal, 2022, 29(01): 24-33.
- [3] Rosenberg, N. Technological interdependence in the American economy [J]. Technology and Culture, 1979, 20(1): 25-50.
- [4] Li Hua, Ding Zhien. Digital economy empowering the real economy: Theoretical logic, realistic dilemmas and path choices [J]. Research on Financial and Economic Issues, 2020(10): 39-48.
- [5] Li Xinjian, Zhang Yichi. The logic, vision, and path of high-quality development of the tourism industry in the digital economy era [J]. Tourism Tribune, 2021, 36(11): 16-29.
- [6] Huang Haiyan, Wang Xiaofang. Research on the dynamic mechanism and realization path of sports tourism integration development [J]. Sports Journal, 2021, 28(04): 34-42.
- [7] Sun Ke, Zheng Atian. NFT: The future of digital art, metaverse and the sports industry [J]. Sports Culture Guide, 2022(02): 21-28.
- [8] Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. Platform revolution: How networked markets are transforming the economy—and how to make them work for you [M]. WW Norton & Company, 2016.
- [9] The State Council. "14th Five-Year Plan" for Digital Economy Development [Z]. 2021-12-12.