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Construction and Optimization Strategy of Regional Sports Industry Financial Ecosystem from the Perspective of New Quality Productive Forces

-- A Case Study of Guangzhou

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Abstract: In the new journey of comprehensively building a modern socialist country, new quality productive forces, as a concrete manifestation of advanced productive forces, are becoming the core engine promoting industrial structure transformation and high-quality economic development. The sports industry, possessing attributes of greenness, health, and consumption upgrading, is undergoing a transition from traditional factor-driven to innovation-driven development, which urgently requires a matching financial support system. However, traditional single financial instruments or loose investment and financing models can no longer adapt to the characteristics of "high technology, light assets, long cycle, and high risk" of new quality productive forces in sports. There is a serious "ecological niche mismatch" between financial resources and industrial needs. Constructing a regional sports industry financial ecosystem characterized by multi-subject symbiosis, all-factor coordination, and environmental friendliness has become the key to solving this problem. Based on financial ecology and industrial organization theory, this paper constructs an analytical framework for the sports financial ecosystem driven by new quality productive forces, analyzing its reshaping mechanism on financial species evolution, ecological environment reconstruction, and energy flow mechanisms. Taking Guangzhou as an example, this paper deeply analyzes the realistic pain points existing in its sports industry financial ecosystem in terms of species diversity, community structure, ecological environment, and energy flow, such as the dilemma of "credit standing alone," the scarcity of patient capital, the "island effect" of credit data, and the rigid mechanism of industry-finance integration. Based on this, this paper proposes constructing a composite ecosystem architecture of "government guidance + market leadership + technology empowerment" and puts forward optimization strategies from five dimensions: enriching financial species communities, optimizing ecological environment matrix, dredging capital energy circulation, strengthening technological nervous systems, and improving risk immune mechanisms. The aim is to provide a continuous stream of financial living water and institutional guarantees for Guangzhou to build a world-famous sports city and cultivate new quality productive forces in the sports industry through the benign succession of the financial ecosystem.

Keywords: New Quality Productive Forces, Sports Industry, Financial Ecosystem, Regional Economy, Guangzhou Experience, Integration of Industry and Finance.

1. Introduction

1.1. Research Background and Macro Context

Currently, a new round of global technological revolution and industrial transformation is accelerating. Frontier technologies such as digital technology, artificial intelligence, and biotechnology are reshaping the global economic landscape. China's economy has shifted from a stage of high-speed growth to a stage of high-quality development and is in a critical period of transforming development modes, optimizing economic structures, and switching growth drivers. General Secretary Xi Jinping creatively proposed the concept of "new quality productive forces," emphasizing the need to "integrate scientific and technological innovation resources, lead the development of strategic emerging industries and future industries, and accelerate the formation of new quality productive forces" [1]. This important statement not only enriches and develops Marxist productivity theory but also provides fundamental compliance for China's industrial upgrading in the new era.

As the head of the "Five Happiness Industries," the sports industry is a new growth point of the national economy and a typical representative of green development. As China's per capita GDP exceeds 12,000 USD and resident consumption structure upgrades accelerate, the sports industry is welcoming a critical "window period" of transition from scale expansion to quality improvement, and from traditional manufacturing to intelligent manufacturing and high-end services. However, this transition process is not smooth. The cultivation of new quality productive forces in sports, such as the R&D of intelligent sports equipment, the operation of digital sports platforms, and the construction of green sports venues, generally possesses characteristics of high technical thresholds, high initial investment, long return cycles, and high uncertainty. The traditional indirect financing system dominated by commercial bank credit and centered on collateral and guarantees struggles to effectively cover these "light asset, heavy operation, strong technology" sports enterprises, leading to a severe "ecological niche mismatch" between financial resources and industrial needs [2].

In this context, relying solely on a single financial instrument or policy patch can no longer solve systemic problems. We need to introduce the perspective of "ecosystem," viewing the government, financial institutions, sports enterprises, and intermediary agencies within the region as an organic whole, to explore how to build a "regional sports industry financial ecosystem" that is self-regulating and benignly circulating. As a national central city, the core engine of the Guangdong-Hong Kong-Macao Greater Bay Area, and a national pilot zone for green finance reform and innovation, Guangzhou has a solid foundation in the sports industry and abundant financial resources, possessing first-mover advantages in building a modern sports financial ecosystem. Therefore, in-depth research on the construction and optimization of Guangzhou's sports industry financial ecosystem from the perspective of new quality productive forces not only has important practical significance for Guangzhou to realize "new vitality in the old city" but also provides a theoretical reference for other cities nationwide.

1.2. Literature Review and Theoretical Evolution

1.2.1. Research on New Quality Productive Forces and Industrial Upgrading

The academic community generally believes that new quality productive forces are a leap in productivity levels led by technological innovation, breaking away from traditional growth paths, and conforming to the requirements of high-quality development. Ren Baoping (2024) pointed out that new quality productive forces reshape the micro-foundation of industrial development through the intellectualization of laborers, the intelligence of labor tools, and the digitization of labor objects [3]. Shen Kunrong et al. (2024) further analyzed the role of new quality productive forces in promoting the modernization of industrial chains, emphasizing the multiplier effect of data elements and technological elements.

1.2.2. Application of Financial Ecosystem Theory

The concept of Financial Ecosystem was first proposed by Zhou Xiaochuan, borrowing ecological principles to analyze the operation of the financial system. Its core view is that financial operation depends not only on financial institutions themselves but also on the external ecology such as laws, policies, and credit environments. In recent years, scholars have introduced this theory into the field of industrial finance. Some studies discussed the support path of the technology financial ecosystem for high-tech industries, emphasizing the importance of the "innovation rainforest" environment.

1.2.3. Status Quo and Dilemma of Financial Support for Sports Industry

Regarding sports industry financing, Huang Haiyan (2019) analyzed the theoretical logic of high-quality development of China's sports industry, pointing out that poor investment and financing mechanisms are the main constraints [4]. Wang Shaocong et al. (2023) found through empirical research that financial agglomeration has a significant positive impact on sports industry efficiency, but there is regional heterogeneity [5]. Existing research mostly focuses on the analysis of single financing channels (such as bank credit, industry funds), lacking systematic investigation from the holistic perspective of "ecosystem," and there is little in-depth analysis combining the latest theoretical paradigm of "new quality productive forces."

The marginal contributions of this paper are: First, deeply integrating the theory of "new quality productive forces" with the theory of "financial ecosystem" to build a new analytical framework; Second, jumping out of the research limitations of single financial instruments to explore regional industry-finance integration from the systemic perspective of ecological evolution; Third, combining the strategic needs of Guangzhou building an international sports city to provide operable ecological optimization strategies.

2. Theoretical Analysis: The Reshaping Mechanism of New Quality Productive Forces on Sports Industry Financial Ecosystem

The financial ecosystem is a complex adaptive system composed of fund suppliers (financial species), fund demanders (sports enterprises), market environment (soil and climate), and regulatory mechanisms. The intervention of new quality productive forces fundamentally changes the energy flow mode and species symbiotic relationship of this ecosystem.

2.1. "Gene Mutation" of Ecological Subjects: From Homogeneity to Heterogeneity

Under the traditional productivity model, the ecological subjects of the sports industry were relatively single: sports enterprises were mostly labor-intensive goods manufacturing or simple venue operations, with their core assets being factories and equipment; financial institutions were also mostly traditional commercial banks relying on collateral for credit extension. This simple community structure of "big tree + big tree" appears fragile when dealing with complex and changeable market environments.

However, from the perspective of new quality productive forces, ecological subjects have undergone profound "gene mutations":

Mutation on the Fund Demand Side (Production Population): Sports enterprises are evolving towards "Specialization, Refinement, Uniqueness, and Innovation." There have emerged smart wearable equipment manufacturers mastering core algorithms, digital sports platforms with massive data, and green venue operators dedicated to low-carbon operations. These "new species" lack physical assets but possess high-value intellectual property (IP) and data assets, having an extremely strong demand for venture capital and technological financing.

Differentiation on the Fund Supply Side (Functional Population): To adapt to the mutation on the demand side, financial institutions have begun to differentiate into "subspecies" adapted to different ecological niches. For example, technology sub-branches, specialized institutions for intellectual property financing, sports industry guidance funds, and VC/PE institutions focused on consumer technology. The diversity of financial species is the premise for maintaining the stability of the ecosystem, and fund suppliers with different risk appetites constitute a rich ecological chain.

2.2. "Digital Reconstruction" of Ecological Environment: From Information Island to Digital Twin

Good soil is the foundation for plant growth. For financial ecology, the credit environment is the soil. Traditional financial ecological environments often face severe information asymmetry, i.e., "information islands." Banks struggle to penetrate the operational black box of sports enterprises, leading to the "lemon market" effect.

New quality productive forces emphasize the application of digital technology, which provides a technical base for restructuring the financial ecological environment. Through technologies such as big data, blockchain, and the Internet of Things, production and operation data (such as order flow, logistics), user behavior data (such as activity, payment rate), and energy consumption data of sports enterprises can be uploaded to the chain in real-time, forming a "digital twin" of the enterprise. This digital ecological environment allows financial institutions to obtain the true credit status of enterprises at extremely low costs, fundamentally changing the logic of credit generation—from looking at static "balance sheets" to looking at dynamic "data flows" [6]. This environmental reconstruction greatly reduces transaction costs and improves the operating efficiency of the ecosystem.

2.3. "Cycle Matching" of Energy Flow: From Short-term Lending to Full Life Cycle Companionship

In an ecosystem, energy flow (capital turnover) must be smooth and efficient. Traditional finance mostly provides short-term liquidity support, which has a serious "maturity mismatch" with the long-cycle R&D and market incubation process of sports new quality productive forces.

The financial ecosystem from the perspective of new quality productive forces emphasizes building a capital chain covering the full life cycle of enterprises, achieving "relay transmission" of energy flow:

Seed/Start-up Stage: Relying on angel investment and government sci-tech innovation funds to provide "patient capital" and "fault-tolerant capital," helping technology move from the laboratory to the market.

Growth Stage: Introducing Venture Capital (VC) and technology credit (investment-loan linkage) to support business model validation and rapid market expansion.

Maturity Stage: Utilizing capital markets (IPO, M&A restructuring) and bank loans to support large-scale production and industrial chain integration.

This relay-style energy flow mechanism ensures that innovative sports enterprises can obtain suitable "nutrition" at different growth stages, avoiding "premature death" caused by capital chain rupture.

2.4. "Intelligent Evolution" of Regulatory Mechanism: From Passive Risk Control to Active Immunity

Any ecosystem needs an immune system to resist risks. Traditional financial risk control is mostly post-event disposal or rigid mortgage, which is passive defense. Empowered by digital technology, the regulatory mechanism of the sports financial ecosystem has achieved intelligent evolution. Using Regulatory Technology (RegTech) and intelligent risk control models, it is possible to monitor capital flows, abnormal business operations, and industry cycle fluctuations in real-time, achieving "early identification, early warning, and early disposal" of risks. This active immune mechanism enhances the resilience and anti-fragility of the ecosystem, allowing it to quickly restore balance when facing external shocks.

3. Empirical Investigation: Status Quo and Pain Points of Guangzhou Sports Industry Financial Ecosystem

As the forefront of reform and opening up, Guangzhou is leading the country in the development of the sports industry. According to the "Guangzhou Sports Industry Development Plan," Guangzhou is focusing on building a modern sports industry system. However, compared with the development requirements of new quality productive forces, the regional sports industry financial ecosystem in Guangzhou still has obvious structural defects and functional obstacles.

3.1. Imbalance of Species Structure: Financial Supply "Standing Alone"

A healthy ecosystem should be a community where arbor, shrubs, and herbaceous plants coexist. However, in Guangzhou's sports financial ecology, commercial banks (arbor) occupy an absolute dominant position, while investment institutions (shrubs) adapted to high-risk preferences of new quality productive forces and inclusive micro-financial organizations (herbs) are underdeveloped.

Excessive Reliance on Credit: The external financing of the vast majority of sports enterprises relies on bank loans. However, constrained by risk control and compliance requirements, banks generally have a psychology of "reluctance to lend" to light-asset sports technology enterprises and event operation enterprises.

Insufficient Activity in Equity Investment: Although Guangzhou has a 100-billion-level industrial investment mother fund, sub-funds specifically focused on the sports track are scarce. Compared with Beijing and Shanghai, there are fewer VC/PE institutions in the sports field in Guangzhou, leading to many high-quality start-up sports projects dying or moving away due to a lack of angel round financing.

Low Utilization Rate of Capital Market: The number of listed sports enterprises in Guangzhou is countable on fingers, and most are concentrated in traditional games or real estate-related fields. There are few pure sports manufacturing or sports service listed companies, and direct financing channels are not smooth, failing to fully utilize the resource allocation function of the capital market.

3.2. Hardening of Ecological Environment: "Island Effect" of Credit Data

Currently, the credit data environment of Guangzhou's sports industry still has a "hardening" phenomenon, hindering the penetration of financial living water.

Difficulty in Data Aggregation: Data on industry and commerce, taxation, social security, intellectual property, event approval, and venue operation of sports enterprises are scattered across different government departments and internet platforms, and a unified "sports industry big data base" has not yet been formed. Financial institutions still need to spend a lot of costs on offline verification when conducting due diligence.

Difficulty in Value Assessment: Although Guangzhou has the Guangzhou Intellectual Property Exchange Center, evaluation standards for intangible assets such as sports event copyrights, athlete commercial values, and data assets have not yet been established. When facing corporate IP assets, financial institutions often cannot carry out pledge financing because they "cannot estimate accurately and cannot sell." This directly leads to the most valuable part of sports new quality productive forces being unable to transform into financial credit, forming a strange circle of "begging for food with a golden bowl" [7].

3.3. Obstruction of Energy Cycle: "Mismatch" between Capital Flow and Industrial Transformation

Energy in the ecosystem should flow to the most dynamic parts. However, in Guangzhou, the allocation of financial resources has a significant structural mismatch.

Flow Mismatch: A large amount of credit funds flows to traditional sports manufacturing OEM enterprises with land and factory buildings, or large-scale sports infrastructure construction (infrastructure logic), while the capital supply for fields truly representing new quality productive forces such as digital sports, smart wearables, and outdoor sports services is seriously insufficient.

Maturity Mismatch: Bank loans are mostly working capital loans within one year, while the cultivation of new sports formats (such as building a well-known event IP) often requires a precipitation period of 3-5 years. Short-term borrowing for long-term use not only increases the capital turnover pressure of enterprises but also exacerbates financial risks, causing enterprises to become conservative in innovation investment.

3.4. Loose Symbiotic Relationship: Industry-Finance Integration "In Name Only"

In a mature ecosystem, there are close symbiotic relationships between species (such as bees and flowers). Currently, the relationship between financial institutions and sports enterprises in Guangzhou is mostly a simple buying and selling relationship, lacking deep strategic coordination.

Scarcity of Talents Who Understand the Industry: Financial institutions lack composite talents who understand both finance and sports operations, leading to weak risk identification capabilities for sports projects and often adopting a "one-size-fits-all" avoidance strategy.

Absence of Intermediary Services: Professional intermediary institutions connecting fund providers and asset owners (such as sports industry consulting, legal services, financial advisors) are underdeveloped, leading to extremely high transaction costs and large friction coefficients for industry-finance docking.

4. Construction Strategy: Ecosystem Reconstruction Guided by New Quality Productive Forces

Aiming at the above pain points, Guangzhou should reconstruct the regional sports industry financial ecosystem according to the principles of "government guidance, market leadership, technology empowerment, and controllable risk."

4.1. Enriching Ecological Species Community: Building a Multi-level Capital Supply System

Strengthening "Patient Capital": Establish a Guangzhou Sports Industry Innovation and Development Guidance Fund, focusing on investing in sports technology enterprises in the seed and start-up stages. Establish a "fault tolerance mechanism," giving a certain degree of assessment tolerance for short-term losses of new quality productive force projects invested by the guidance fund, encouraging investment in early, small, and hard technology.

Cultivating "Characteristic Species": Encourage commercial banks in Guangzhou to set up "Sports Finance Business Divisions" or "Sports Feature Sub-branches," listing separate credit plans and innovating credit products. Support the establishment of financial leasing companies specifically serving the sports industry to solve the equipment renewal funding needs of intelligent sports equipment manufacturing enterprises.

Introducing "External Species": Actively strive for the National Sports Industry Development Fund to set up sub-funds in Guangzhou. Utilize the cross-border financial advantages of the Guangdong-Hong Kong-Macao Greater Bay Area to introduce low-cost funds and international investment institutions from Hong Kong and Macao to participate in the equity financing of Guangzhou sports enterprises, increasing the species diversity of the ecosystem.

4.2. Improving Ecological Environment Matrix: Building Digital Credit Infrastructure

Building "Sports Industry Brain": Relying on urban brain platforms like "Suizhiguan," connect data from sports, tax, market supervision, social security, customs, and other departments to build a unified sports enterprise credit information sharing platform for the whole city. Conduct precise profiling and credit scoring of enterprises, making data an "asset" for enterprises.

Perfecting Intangible Asset Trading System: Relying on the Guangzhou Data Exchange and Intellectual Property Exchange Center, explore establishing valuation models and trading boards for sports IP and data assets. Cultivate authoritative third-party sports asset evaluation institutions to solve the problem of "difficult pricing" for intangible assets.

Optimizing Legal and Policy Environment: Issue the "Implementation Opinions of Guangzhou on Promoting the Deep Integration and Development of Sports Finance," clarifying financial rewards and interest discount support for sports enterprises listing, issuing bonds, and securitizing intellectual property. Establish a quick trial and settlement mechanism for sports financial cases, maintaining financial creditor rights security, and optimizing the rule of law environment of the ecosystem.

4.3. Dredging Energy Flow Channels: Innovating Full Life Cycle Financial Products

Start-up Stage: Investment-Loan Linkage. Promote the "Equity + Debt" model, where banks establish strategic cooperation with VC/PE institutions. For sports enterprises that have obtained investment from well-known venture capital institutions, banks provide a certain proportion of unsecured credit loans ("option loans"), achieving risk sharing and benefit sharing.

Growth Stage: Supply Chain and Intellectual Property Finance. For sports manufacturing enterprises, use IoT technology to carry out supply chain financing based on industrial chain data; for digital sports enterprises, vigorously promote "copyright loans," "patent loans," and data asset pledge financing to revitalize intangible assets.

Maturity Stage: Asset Securitization and M&A Restructuring. Support enterprises with high-quality venue assets or stable event ticket revenues to issue ABS (Asset-Backed Securities) or REITs (Real Estate Investment Trusts) to revitalize existing assets. Encourage leading enterprises to use listed company platforms to carry out industrial chain M&A and improve industrial concentration [8].

4.4. Strengthening Ecological Regulation Mechanism: Technological Supervision and Talent Support

Developing Regulatory Technology (RegTech): Use blockchain technology to achieve full-process traceability of fund flows, preventing funds from circulating idly or flowing into the real estate market in violation of regulations. Establish a sports industry financial risk warning system to monitor industry prosperity and corporate leverage ratios in real-time, ensuring ecological security.

Building a Talent Reservoir: Relying on university resources in Guangzhou University City (such as Guangzhou Sport University, Jinan University, Guangdong University of Finance), open sports finance interdisciplinary majors or micro-majors. Encourage mutual secondment and exchange of cadres between financial institutions and sports enterprises, cultivating composite "cross-boundary" talents who understand sports, finance, and technology, providing intellectual support for the ecosystem.

5. Optimization Strategy: Promoting Dynamic Evolution and Self-Iteration of the Ecosystem

The completion of ecosystem construction is not the end point; it is also necessary to promote its evolution to a higher form through continuous optimization strategies.

5.1. Establishing "Negative Feedback" Mechanism of Ecosystem: Risk Isolation and Exit

A healthy ecosystem must have an elimination mechanism.

Establishing Risk Compensation Pool: Funded by municipal and district-level finances, set up a sports industry credit risk compensation fund pool. For bad debts generated by financial institutions lending to qualified sports new quality productive force projects, provide compensation of a certain proportion (such as 30%-50%) to reduce banks' fear of lending.

Unblocking Exit Channels: Improve the S Fund (Secondary Fund) market to provide share transfer and exit channels for VC/PE investing in the sports industry early on. Improve the corporate bankruptcy reorganization mechanism to achieve the clearing of inefficient assets, making room for survival for new species.

5.2. Enhancing "Positive Feedback" Mechanism of Ecosystem: Demonstration Guidance and Incentives

Creating "Sports Finance Demonstration Zone": Set up municipal-level sports finance cooperation demonstration zones in Tianhe District (Digital Sports), Nansha District (Water Sports and Financial Innovation), and Huadu District (Intelligent Manufacturing), giving policy authority for pilot trials and exploring sandbox regulatory models.

Implementing "Chain Master" Pilot Plan: Select a batch of sports industry chain master enterprises, giving them policy inclinations in supply chain finance construction and industrial fund establishment, driving the financing capabilities of upstream and downstream SMEs through the credit spillover of chain master enterprises.

5.3. Expanding "Open Boundary" of Ecosystem: Greater Bay Area Collaboration

The ecosystem cannot run in isolation. Guangzhou should fully utilize the geographical advantages of the Guangdong-Hong Kong-Macao Greater Bay Area to expand the boundaries of sports financial ecology.

Cross-border Financial Innovation: Explore carrying out cross-border RMB two-way capital pool business to facilitate capital allocation for multinational sports enterprises. Support Guangzhou sports enterprises to list and finance on the Hong Kong Stock Exchange, utilizing international capital to become bigger and stronger.

National Games Opportunity: Utilizing the opportunity of the 2025 Guangdong-Hong Kong-Macao National Games, explore cooperation models such as syndicated loans and joint insurance by financial institutions in the three places, jointly supporting large-scale sports event operations and venue construction, promoting the docking and mutual recognition of sports financial standards in the Greater Bay Area, and building a broader Bay Area sports financial ecosystem [9].

6. Conclusion

From the perspective of new quality productive forces, the construction of a regional sports industry financial ecosystem is a systematic project involving the coordinated efforts of multi-parties such as the government, market, and society. As a major town for China's sports industry and a highland for financial innovation, Guangzhou possesses the foundation and potential for pilot trials. By reshaping the genes of ecological subjects, digitally transforming the ecological environment, dredging capital energy circulation, and improving risk regulation mechanisms, Guangzhou is expected to build a modern sports financial ecosystem with "rich species, reasonable structure, smooth circulation, and strong risk resistance."

This will not only effectively solve the stubborn illness of "difficult and expensive financing" in the sports industry but also accelerate the transformation of the sports industry towards digitization, intelligence, and greening through efficient allocation of financial resources, cultivating more internationally competitive sports "new species." In the future, with the continuous evolution and optimization of this ecosystem, it will surely provide strong momentum for the high-quality development of Guangzhou's sports industry and provide a vivid footnote for the "Guangzhou Path" of China's sports industry modernization.

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