

Research on the Cross-border Integration Mechanism and Governance Path of Medical Complexes

Chaoqun Ma

School of Business, Macau University of Science and Technology, Macau 999078, China

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Abstract: Against the backdrop of the impact of e-commerce, consumption upgrading and the surging demand for health services, the transformation of shopping centers into medical complexes has become an important path for the innovation of commercial real estate. Focusing on this emerging business format, this paper constructs an integrated analytical framework of "Driving-Innovation-Governance" by adopting the methods of literature analysis and multi-case comparison. The study finds that the transformation is the result of the synergistic driving of factors such as e-commerce pressure, the transformation of real estate capital, population aging and the empowerment of the sharing economy, and its core innovation lies in building a cross-border ecosystem of "medical service-driven passenger flow - commercial consumption conversion". However, this model still faces four major governance challenges: the lag of policy supervision adaptation, the mismatch between economic costs and payment systems, the difficulty in breaking social trust barriers, and the dilemma of balancing data security and value mining. In response, the study proposes systematic countermeasures such as the introduction of a "regulatory sandbox", the construction of a diversified payment ecosystem, the promotion of transparent brand building, and the establishment of a data governance framework. This research provides a theoretical perspective for understanding the cross-border integration of commercial real estate and also offers practical guidance for the sustainable development of medical complexes.

1. Introduction

Entering the third decade of the 21st century, the global commercial pattern is undergoing profound changes. The retail-dominated model of traditional shopping centers is facing the impact of e-commerce, leading to a "stock crisis" characterized by declining passenger flow and reduced per square meter efficiency. In the post-pandemic era, the value of offline spaces has shifted from "places for commodity transactions" to "destinations for life experiences", and consumer demand has shown experiential and social characteristics. Against this background, exploring emerging business formats that can generate stable purpose-driven passenger flow has become an urgent task

for the transformation of shopping centers. At the same time, the structural changes in China's social economy have provided new opportunities for the transformation of physical commerce. The implementation of the Healthy China 2030 Planning Outline, the accelerated aging of the population and the consumption upgrading of the middle class have jointly driven the leap of health service demand from disease treatment to full-life-cycle health management. However, the traditional medical system has exposed structural contradictions such as insufficient supply and poor experience in meeting diversified and high-quality health needs, creating a broad market for market-oriented and high-quality non-public medical services. The 14th Five-Year Plan for National Health points out that "we will promote the integrated development of health-related business formats, advance the integrated development of health with elderly care, tourism, the internet, fitness and leisure, food and other industries, and strengthen new health-related forms and models of business" [1].

Driven by these dual factors, the "medical complex" has emerged as an innovative intersection connecting the revitalization of commercial stock and the growth of health services. Through platform design, it organically integrates medical service clusters with commercial formats to build a "one-stop healthy life destination". A study notes that "Hangzhou QuanCheng Medical Mall has realized the sharing of cross-border customer sources and expertise between mall retail and the medical industry" [2]. Despite its potential, this model faces multiple challenges in supervision, operation and trust due to its cross-border nature spanning the medical and commercial sectors. Based on this, this study focuses on three core issues: first, the underlying driving mechanism of the transformation; second, the construction of an innovative business model for medical complexes; third, the governance challenges faced by this model under China's institutional environment and the corresponding response paths. Through a systematic exploration of these issues, this research aims to provide references for relevant theories and practices.

2. Analysis of Driving Factors: The Inevitability of Transformation under Multiple Logics

The transformation of shopping centers into medical complexes is a systematic change driven by the synergy of multiple forces, including macro environmental pressure, industrial capital impetus, market demand pull and technological innovation empowerment. This paper analyzes the internal driving logic of this cross-border integration from four key dimensions.

2.1 External Impetus: Reconstruction of the Value of Physical Commerce under the Impact of E-commerce

Entering the third decade of the 21st century, China's retail industry is experiencing profound changes. The rapid development of e-commerce has transformed consumers' shopping habits and behavioral patterns. "According to the data from the National Bureau of Statistics, the online retail sales of physical goods nationwide increased by 5.2% in 2025, contributing 36.2% to the growth of total retail sales of consumer goods" [3], which indicates that the traffic and transaction functions of offline retail have been largely replaced online. Behind this figure lies the severe challenges faced by the traditional retail industry: physical commerce, especially shopping centers, is under multiple pressures of passenger flow shortage, anxiety over per square meter efficiency and value hollowing-out. Against this background, the core value of physical commerce must be fundamentally reconstructed from "transaction efficiency" to "experience depth". Consumers' motivation to visit shopping centers is increasingly shifting to seeking immersive experiences, social interaction and emotional connection that cannot be replicated online.

Medical services have become a strategic choice for reconstructing offline value due to their unique attributes. First, they have rigid demand and anti-cyclical, which can bring stable

purpose-driven passenger flow to shopping malls. Second, their strong offline nature forms a professional barrier that e-commerce cannot cross. More importantly, medical services create a unique "time window" value, and the derivative consumption generated by patients during waiting and examination intervals can naturally form business format synergy. For example, after introducing high-end physical examination, dental and other formats, Shenzhen MixC World has seen a significant increase in passenger flow on non-working days, with the average customer stay time extended by more than 40%, reflecting an effective closed loop of "medical service-driven passenger flow - commercial consumption conversion".

2.2 Internal Driving Force: Strategic Coupling of Real Estate Capital and the Health Industry

The transformation of the real estate industry from the era of "incremental development" to "stock operation" is a key internal driving force for the development of medical complexes. As the traditional residential development model comes under pressure, revitalizing stock commercial assets and obtaining stable long-term returns have become core demands.

The medical and health business format can provide high-quality predictable cash flow and enhance the overall brand value of projects due to its characteristics of stable operation, long lease terms and strong payment capacity. A deeper driving force lies in the layout of capital for new strategic growth curves. According to the Healthy China 2030 Planning Outline, the total scale of China's health service industry is expected to reach 16 trillion yuan by 2030. Faced with this blue ocean, leading real estate enterprises such as Vanke, China Resources and Wanda have all elevated "real estate + health" to their group strategies, and deeply involved through co-construction and independent operation. This integration goes beyond the simple "landlord-tenant" relationship and forms in-depth synergy: the spatial operation and customer resources of real estate developers are combined with the professional service capabilities of medical institutions to jointly create a highly sticky "destination", which has become an important strategy for asset appreciation, especially in core urban areas.

2.3 Demand Pull: Dual Driving of Structural Changes and Consumption Upgrading

The profound changes in market demand are the fundamental pulling force for the development of medical complexes, which are mainly reflected in three aspects: population structure, consumption concepts and health awareness.

First, the rigid demand brought by population aging. By the end of 2023, the population aged 60 and above in China had reached 297 million, accounting for 21.1% of the total population. An aging society has spawned a huge demand for chronic disease management, rehabilitation care and community health care, which is characterized by high frequency, long-term and proximity, providing a natural market foundation for the transformation of shopping centers located in community living circles.

Second, the upgrading demand for consumer medical services. With the growth of the middle class, the demand for medical services has leaped from "basic security" to "quality experience". Consumers have increasingly high requirements for privacy, comfort, convenience and personalization, and are willing to pay a premium for them, while the traditional public hospital system has a gap in meeting such demands.

Third, the popularization of health awareness in the post-pandemic era. The unprecedented awakening of public health awareness has driven the rapid growth of preventive medicine, health management, mental health and consumer medical services (such as medical aesthetics, dentistry and sports rehabilitation). Such services have both professional and consumer experience attributes, which are highly consistent with the scenarios of shopping centers. Taking Shanghai Xintiandi

Health Complex as an example, by integrating multi-specialty services such as pediatrics, obstetrics and gynecology, and medical aesthetics, it serves more than 100,000 person-times annually, with non-therapeutic health consumption accounting for 35% of the total, successfully capturing the dividends of consumption upgrading.

2.4 Innovation Empowerment: Platform Support from the Sharing Model and Digital Technology

Breakthroughs in technological innovation and management concepts have provided key supporting conditions for the realization of medical complexes. If demand changes and capital motivation point out the direction of transformation, technological and management innovation provide the realization path for this transformation.

The sharing economy model has lowered the supply threshold. "Businesses based on sharing typically feature collaborative platforms, underutilized resources, and peer-to-peer interactions" [4]. By building shared medical technology platforms such as imaging centers, clinical laboratories and surgical centers, medical complexes realize the intensive use of high-end medical equipment. This has greatly reduced the startup and operational costs of individual clinics and improved equipment utilization efficiency. For example, the equipment utilization rate of the shared center of Hangzhou QuanCheng Medical has increased by more than 50%, and it also provides hardware support for the flexible practice of physician groups.

Digital technology has built the foundation for ecological operation. Technologies such as the Internet of Things, big data and artificial intelligence have made it possible to build an integrated smart health platform. The platform achieves three major functions: first, online process management, connecting appointment, medical records, payment and other links to improve efficiency; second, data integration, connecting health data with consumption behavior under compliance premises to support precise services and business format linkage; third, intelligent management, optimizing resource allocation and risk early warning. For example, the medical and commercial complex in Guangzhou International Bio Island has discovered the inherent correlation between specific health services and surrounding consumption through a unified data platform, thus scientifically optimizing the combination of business formats.

2.5 Synergistic Evolution: Interaction of Driving Factors and Development Stages

The above four driving factors do not exist in isolation, but form a system that catalyzes and evolves with each other. The impact of e-commerce has spawned the demand for business model innovation, real estate transformation has provided capital and spatial carriers for it, consumption upgrading has clarified the market direction, and technological innovation has enabled the implementation of solutions.

This synergistic driving has made the development of medical complexes show a phased evolution law: from the pilot exploration of individual developers in the initial stage, to the agglomeration of capital and talents after the verification of successful models, and finally to the maturity of policy adaptation and industrial ecology. Moreover, "value co-creation promotes the balance of multi-stakeholder interests and sustainable development of the internet medical ecosystem" [5]. Although China's medical complexes started later than markets such as the United States, they are rapidly forming a localized development path by virtue of huge market demand, active capital and the application of digital technology. However, the transformation also faces challenges such as the rigidity of the traditional medical system, the inertial thinking of commercial real estate and data compliance. Its future development depends not only on market forces, but also on the adaptive adjustment of the policy environment and the systematic construction of the

industrial ecology.

In general, the transformation of shopping centers into medical complexes is an inevitable result of the joint action of various forces under specific historical conditions. This transformation not only reflects the self-innovation of traditional commercial forms, but also embodies the innovative exploration of the development model of the health service industry, and further indicates the future trend of increasingly blurred industrial boundaries and increasingly integrated value creation. An in-depth understanding of the driving mechanism of this transformation helps us better grasp the development laws, predict future trends, and provide theoretical support for relevant policy formulation and industrial practice.

3. Governance Challenges and Response Strategies

As a new business format spanning the medical and commercial systems, the value creation process of medical complexes is jointly realized by all individuals on the platform [6], and its development faces systematic governance challenges. These challenges are rooted in the conflicts of value logic between industries, the lag of institutional adaptation and the differences in market cognition, which constitute the key bottlenecks for the sustainable development of this model. This chapter analyzes the challenges from four dimensions: policy regulation, economic operation, social trust and data governance.

3.1 Policy Regulation Barriers: Institutional Adaptation and Regulatory Innovation

There is a structural mismatch between the current medical supervision system and the platform-based ecological characteristics of medical complexes. The traditional approval principle of "one address, one certificate" directly conflicts with the operation mode of multiple institutions coexisting on the platform, leading to ambiguity in the identification of subject qualifications. At the same time, technical conflicts between medical professional norms and commercial construction standards (such as requirements for air conditioning purification and fire evacuation) have become landing obstacles due to the lack of an inter-departmental coordination mechanism.

The response strategies need to adopt a progressive innovation path: first, establish a "regulatory sandbox" mechanism in pilot areas, explore a new approval model of "platform filing + institution registration", and clarify the legal liability of platform parties as "managers of medical agglomeration areas". Second, take the health department as the lead to formulate the Guidelines for the Establishment and Management of Medical Complexes, and establish a special standard system adapted to the characteristics of sharing. Third, build an inter-departmental joint meeting mechanism, set up a chief liaison officer to coordinate and solve cross-field supervision problems, and promote the transformation from "access supervision" to "whole-process collaborative supervision".

3.2 Economic Operation Challenges: Reconstruction of Payment Systems and Cost Optimization

The sustainability of the business model is facing dual pressures from cost structure and payment systems. On the one hand, the medical transformation of properties, the configuration of high-end equipment and the construction of compound teams form a dual burden of "high fixed costs + high labor costs". On the other hand, the positioning of basic medical insurance as "guaranteeing basic needs" makes it difficult to cover most high-end services, while commercial health insurance products are highly homogeneous and lack in-depth cooperation models with medical complexes, leading to limited payment channels.

The solution lies in building a hierarchical payment ecosystem: first, guide medical complexes to focus on differentiated tracks and deepen the segmentation fields such as consumer medical services and health management that are insufficiently covered by medical insurance. Second, promote the development of customized health insurance products with insurance companies, establish direct payment channels and explore the "managed care" cooperation model, and realize precise risk control through data sharing. Third, explore the connection mechanism between basic medical insurance and commercial health insurance, include basic diagnosis and treatment services in the designated medical insurance institutions, cover high-end services with commercial health insurance, and expand innovative payment scenarios such as corporate health welfare procurement.

3.3 Construction of Social Trust: Cognitive Transformation and Brand Building

In the medical system dominated by public hospitals, medical complexes face the challenge of building "market trust" from scratch. The public has professional doubts about "seeking medical treatment in shopping malls", the rigor of medical care is prone to cultural conflicts with the marketing nature of commerce, and negative incidents of a single institution on the platform may trigger a "guilt by association effect", leading to a systemic trust crisis.

Trust building requires the implementation of a four-in-one strategy: at the fundamental level, adhere to the medical essence and establish professional credibility with a quality control system that exceeds industry standards; at the operational level, implement extreme transparency, publish qualifications, prices and processes, and establish an open supervision mechanism; at the communication level, carry out systematic market education and reshape the cognition of "high-quality health management" through health popularization and community activities; at the institutional level, establish a platform co-governance system, set up a quality supervision committee and a risk mutual aid fund, and build a collective reputation protection network.

3.4 Data Governance Challenges: Balancing Security Compliance and Value Mining

As a hub for health data, medical complexes face three major challenges: the definition of ownership, security protection and compliant utilization. There is no clear division of rights and responsibilities for data flow among multiple institutions, commercial IT systems are difficult to meet the security level requirements of medical data, and the mining of data value is subject to dual constraints of law and ethics.

A synergistic data governance framework of "technology-management-ethics" should be constructed: technically, build a medical-grade data middle platform and adopt technologies such as privacy computing to realize "data available but not visible"; managerially, formulate a Data Governance Convention that is stricter than national standards and establish an independent data compliance supervision committee; ethically, establish the principle of "patient benefit first", set up a pre-review mechanism for ethics, strictly prohibit the use of data for non-medical commercial purposes, and build a trust relationship based on informed consent through a transparent authorization mechanism.

In summary, the governance breakthrough of medical complexes requires the coordinated advancement of institutional innovation, market cultivation, trust building and technological empowerment. At the policy level, an inclusive and prudent innovation space should be provided; at the market level, a multi-level payment system needs to be improved; at the operational level, the medical essence must be adhered to build brand trust; at the technical level, a safe and efficient data governance system should be established. Only through the construction of such a systematic governance framework can the inherent tensions of cross-border integration be resolved, enabling medical complexes to truly become a useful supplement to the urban health service system and

exert their unique ecological value in the construction of "Healthy China".

4. Conclusions

This study points out that the transformation of shopping centers into medical complexes is essentially an in-depth coupling of commercial logic and health industry logic in the era of the digital economy. Under the platform model, the value chain is no longer a straight chain, but a neural network connecting platform enterprises, settled enterprises, hardware and software logistics support enterprises and even user groups. Its core innovation lies in building a cross-border ecosystem of resource symbiosis and value co-creation through a platform-based architecture. This transformation is not only a strategic way for physical commerce to meet challenges, but also a useful exploration of the supply-side structural reform of health services. At the theoretical level, the contributions of this research are as follows: it deepens the theory of retail demand externality and reveals the unique effect of "health anchor tenants"; it expands the theory of cross-border business model innovation and analyzes the platform governance structure of the integration of highly heterogeneous industries; it enriches the application scenarios of the sharing economy theory in the field of professional and high-barrier services. At the practical level, the research provides clear implications for different subjects: developers/operators need to transform from "landlords" to "ecosystem builders" and cultivate the capabilities of cross-industry resource integration and collaborative operation; medical institutions can realize asset-light, professional and community-proximate development by virtue of the platform; government supervision departments should adhere to the principle of "inclusive and prudent", innovate supervision tools, and improve standards and payment guidance; urban planners can regard medical complexes as "urban health nodes" to enhance the accessibility of community health services.

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