

An innovative analysis of the coupling model for improving the linkage performance of commercial real estate and tourism real estate market

Siying Li

Sichuan University of Arts and Science, China.

Lay2015@126.com

Abstract

This paper focuses on the internal mechanism and basic characteristics of improving the linkage performance of niche markets (commercial real estate and tourism real estate). In-depth understanding of the characteristics of niche markets (commercial real estate and tourism real estate) and the characteristics of real estate itself, with the help of big tools to explore the coupling law of linkage performance, we explore the theory of linkage performance from the perspective of coupling law, coupling category and coupling system, also coupling model. Summarizing the empirical analysis results and research prospects of the coupled model, it is helpful to provide the theoretical basis and realistic reference for the government to implement the innovation strategy of the niche market (commercial real estate and tourism real estate) and real estate itself.

Keywords

Commercial real estate market; tourism real estate market; linkage performance.

1. Introduction

In recent years, in the commercial real estate industry after rapid development, whether it is a first-line big city or a third and fourth-line small city, commercial real estate surplus and facing the operational thinking needs to break through the predicament, has been heated discussion and attention of people inside and outside the industry. And in the cultural tourism industry, which does not seem to have much relationship with commercial real estate, the industry relies on scenic spots, cultural heritage and other unique resources to extend the commercial tentacles and industrial chain to manufacturing, service industry and so on. The huge consumer market demand and vigorous productivity not only drive the development of related industries, but also provide new ideas for urban development.

The new ideas and measures proposed in the report of the 19th National Congress of the Communist Party of China set the pattern of China's social and economic development in the next five years, laying the theoretical foundation by linking the commercial real estate with tourism real estate, logistics real estate and other niche real estate markets (hereinafter referred to as niche market linkage). In October 2016, the Ministry of Housing and Urban-Rural Development announced the first batch of 127 towns with Chinese characteristics, laying a certain foundation for the combination of commercial real estate and tourism real estate.

2. The theoretical basis of a coupling coordination analysis

2.1 The connotation of coupling, coupling degree and coupling coordination degree

Coupling, formerly a physical noun, refers to the phenomenon of tight coordination and interaction between the input and output of two or more circuit components or electrical networks, and the transfer of energy from one side to the other through interaction. With the deepening of research, the concept of coupling has gradually been introduced into the field of sociology. In a nutshell, coupling refers to the phenomenon in which two or more systems or elements are interdependent and affect each other. Coupling is an indicator of the degree of interaction between systems or elements. From the perspective of synergy, the coupling effect and its degree of coordination determine the tendency

of the system to move from disorder to order when it reaches the critical region. The key to the orderly mechanism of the system is the synergy between the internal parameters of the system. It affects the characteristics and laws of system changes. The degree of coupling and coordination is a measure of this synergy.

2.2 Commercial real estate and tourism real estate

With the advancement of urbanization, the boundaries of the city are gradually blurred, and people's work and life are no longer bounded by the administrative boundaries of the city. Even many people pay more attention to the theme of life than the house and the work itself. The development of tourism real estate in tourism destinations has shifted people's lives from urban centers to suburbs. Tourists have not only realized the pursuit of a wider world and a more beautiful environment, but also have obtained high quality of life. In China, many suburban tourist areas have a good resource environment and excellent geographical location also broad market demand, which greatly caters to people's psychological pursuits. Together with the comprehensive effect of developing suburban tourism, suburban tourism destinations have unparalleled development of the innate conditions of tourism real estate, thus, the purchase of tourist resort properties in suburban tourist destinations has become fashionable.

On the other hand, the development of tourism real estate also provides a large amount of financial support for the development of tourism, improving the management level of tourism destinations and optimizing the structure of tourism products, also enhancing the competitiveness of tourism destinations; and generating a series of industrial linkage effects. It guarantees the sustainability of tourism destinations. And in the end, it greatly promotes the development of suburban tourism economy. The joint development of commercial real estate and tourism real estate is not only conducive to promoting the development of suburban tourism and real estate industries, but also conducive to the formation of industrial advantages, and the transformation from industrial advantages to economic advantages, as well as to maintain regional economic stability.

2.3 Business model of tourism real estate

The business model of tourism real estate includes two markets, three types, four problems and five demands.

In the next 5-10 years, China's big cities will usher in a wave of migration and relocation. The future migration and relocation will show different characteristics.

Firstly, work is still in the original city, while life and family may tend to those areas with good environment and neighboring cities;

Secondly, work, life and family are all moving synchronously. Those regions and cities with good environment and industrial development will have significant development opportunities in the future.

Thirdly, migration and relocation need to be viewed from a global regional perspective. From this perspective to think about tourism real estate, we will find that the first and second residences are converging and blurring. The original tourism real estate product is an effective supplement to the lifestyle and will evolve into an indispensable part of life.

2.4 Status quo

In general, there are the following characteristics that deserve attention.

- 1) The overall supply is large. Especially in some key areas, such as Hainan, Guangdong, Yunnan, Sichuan, Shandong, Bohai rim, etc., but there are not many real successful tourism real estate projects.
- 2) A swarm of people. It is not only the national tourism destination to develop tourism real estate, but also the major central cities to develop tourism real estate, even some third and fourth tier cities to develop tourism real estate;
- 3) Lack of innovation and obvious homogenization. It is mainly reflected in the insufficient integration of tourism resources, insufficient introduction of symbolic resources, and no obvious

differentiation. Some projects are uneconomical and unsustainable in construction scale and urban development.

To think deeply about tourism real estate, the first major change of thinking mode is to think about the development of the whole industry from the product first in the past to "starting with the end" and starting from the demand.

In marketing, demand equals market. Why do people in the industry pay attention to the competition between e-commerce and commercial real estate? The essence of e-commerce is data, behind which are consumers and demands. The reason why e-commerce brings so much pressure to the industry, in the final analysis, is that it accurately grasps consumers.

The real estate competition in the future, the tourism real estate competition in the future, who controls the consumers, who can win in this competition. Demand determines the future of tourism real estate.

From the perspective of demand, the first major problem of tourism real estate is the problem of "two markets". This problem is the first and basic problem of tourism real estate. The two markets refer to two different market segments of tourism real estate, one is tourism industry market, the other is commercial real estate, or more precisely, the market of marketable property.

3. The coupling law of commercial real estate and tourism real estate market linkage

3.1 Gathering

Gathering can reduce the "friction" of resources and elements in the commercial real estate market "in and out". The clustering of business and tourism real estate market is divided into factor agglomeration, industrial agglomeration and urban agglomeration economy. Enterprises cluster that are linked to the business travel market should be encouraged to be established. A great first-mover advantage can be established (Schmalensee, 1982b). Due to different location, the business travel real estate market linkage can produce vertical and horizontal convergence. The main business enterprises in the horizontal commercial real estate market communicate and trade by themselves; and the local government in the local business travel market is leading the way, giving preferential policies and establishing linkages.

3.2 Co-opetition

Dagnino and Padula define competition as a new type of strategic dependence formed by the co-occurrence of cooperation and competition. Relevant data needs to be led by the government to balance the relationship and overall activity between the business and tourism real estate market data within the region. According to the China National Statistical Yearbook (2016), the number of legal entities in the real estate industry is 148,059 in 2005, and the number has increased to 466,100 in 2015, which has been on the rise. The number of real estates engaged in commercial real estate and tourism real estate has shown a co-opetition phenomenon, and there has been cross-regional and cross-enterprise competition.

3.3 Synergy.

The linkage of business travel real estate market is a mutually beneficial behavior. Based on market correlation, the linkage of business travel real estate market is a synergistic and cross-border integration of resource behavior, which can extend the industrial chain and establish a new model of economic development.

Due to the clustering advantages of resources, the formation of business travel real estate market has a strong path dependence. And the regional characteristics of innovation activities will be divergent, and the linkage of business travel real estate market needs to have two functions of financing and management.

3.4 Blending (symbiotic interaction)

The business travel real estate market has a phenomenon of integration, symbiosis and interaction. The linkage of business and real estate market need to get rid of opportunism and zero-sum game ideas, and establish a concept of credibility, common ownership and sharing, as well as win-win cooperation, for the reason that share the commonality brought about by symbiotic interaction.

4. Demand in the tourism industry market

4.1 Leisure vacation

This demand for past tourism real estate projects has also been noted, but not enough. Consumer demand is constantly being upgraded and consumers can be educated. In the future leisure vacation, how can developers create better products and services, so that consumers can slow down, calm down, relax, and exercise, which requires them to create better brands, better services, and better Differentiated products, and these needs, the space for future differentiation is huge, it is worthy of serious research and innovation. Among the current holiday products, there are a large number of resort hotels that have been converted into business hotels. Many of these brands are business hotel brands. These business hotels are usually large in size and have a large number of rooms. They also take care of vacations, tours, conferences, etc. Function, which raises some questions for tourism real estate, and also brings great opportunities to some good resort brands or holiday complexes.

4.2 Conference Tourism

Conference-style hotels are a proprietary term in the hospitality industry. In tourism real estate, it is not much to think about and design as a clear demand. There is a huge space for future conferences. Although with the introduction of the eight national regulations, the conference on official business will be greatly reduced, but the tourism real estate project should vigorously develop the demand for business meetings. The big country with a population of 1.3 billion has always been the world's leading big market. In such a big market, business meetings will bring great demand and passenger flow to our tourism real estate.

4.3 Circle party

The biggest change in these years is that organizations and organizations can organize meetings, but now with the development of new social tools such as WeChat, more and more circles, Chinese people like to do things, and these social needs will form a future meeting. Become a huge demand in the tourism industry market. In addition, some small and medium-sized small-circle gatherings will become a large market in the future. To meet these needs, future corporate clubs, villa-style hotels, etc. may have relatively large opportunities.

4.4 Entertainment

The gaming industry, show show, and water curtains in Las Vegas and Macau have left a deep impression on people. Disney, the experience of Happy Valley makes visitors dizzy. These are the needs of entertainment. People need to socialize, need sports, need culture, and need material and spiritual satisfaction. These needs are far from being met and have great potential.

4.5 Health and tourism integration

People used to choose to live in hotels, see attractions, and shop in the past, but today's consumers pay more attention to the experience of travel, especially those related to health and health, such as cycling and other sports, such as doing SPA, doing a healthy experience. , and rehabilitation, etc., these demands bring more new opportunities to our tourism industry market.

These kinds of needs summarized above will become an important driving force and source for promoting and guiding the development of tourism industry in tourism and holiday real estate. These needs have a great impact on the planning and construction of tourism real estate tourism products.

5. Coupling category of linkage between commercial real estate and tourism real estate market

This paper believes that the linkage of business travel real estate market is a product of social economic development to a certain stage, and also a benign structure of tourism, commerce and real estate industry. The following is a coupling category for the linkage of the business travel real estate market.

5.1 Structural coupling

Coupling development has spatial differentiation mechanism and structuralist. Location factor is the basic condition that affects the spatial differentiation of the coupling development degree. And economic development is the fundamental motivation that affects the spatial differentiation of the coupling development degree, while the traffic condition is an important guiding force that affects the spatial differentiation of the coupling development degree. The policy of linkage between the business and real estate market is a structurally coupled platform, characterized by high-level coupling (such as capital appreciation coupling), medium-level coupling (such as capital demand coupling), and low-level coupling (such as the policy coupling).

The internal development of the business travel real estate linkage market is unbalanced, and the phenomenon of reshaping the structure of the real estate by land use conversion is a phenomenon of structural coupling.

5.2 Functional coupling.

Functional coupling refers to the transmission of control information between the linkage subsystems of the business travel real estate market. The functional decomposition is replaced by data coupling. And the network platform of the business travel real estate linkage market is one of the functional coupling tools. The business travel real estate market linkage needs at least innovative functions such as technology policy, financing, and management, such as the establishment of network platform and a big data platform linked by the business travel real estate.

5.3 Time and the space coupling

Time-space coupling refers to several tasks in the linking system of the business travel real estate market. These tasks overlap in the completion time, and space is the carrier. Big data can be used as one of the tools of space-time coupling. The space-time coupling situation is the commercial and real estate linkage market space. The important manifestation of the equilibrium process can effectively guide the formulation and implementation of relevant economic and technological policies, commercial construction of facilities, transportation development and environmental management.

5.4 Environmental coupling

Environmental coupling refers to data access, business transactions, information exchange between the business environment linkage subsystems through the public environment. The policy of linkage between the business and real estate market is an environmentally coupled platform that can guarantee the connection and integration of the system.

5.5 Technical coupling.

For the commercial real estate linkage market platform, technology is the main, decisive and direct input factor, and its significance lies in innovation and advancement, such as the use of big data to greatly enhance the omni-channel participation and experience of the business travel real estate market linkage. If the module design can be utilized, the technical coupling should be followed.

5.6 Institutional coupling.

As a highly-motivated market, the tourism real estate market has a strong driving force for the promotion of the commercial real estate market. The development of the commercial real estate market also provides the foundation and guarantee for the development of the tourism real estate market. The two interact with each other as background, interaction and influence; carry out

innovation policy, promote the linkage between commercial real estate and tourism real estate market, and coordinate the commercial real estate market with the relationship between the residential market, local tourism resources, urban characteristics and income levels, the business environment, etc.

6. The coupling system arrangement of commercial real estate and tourism real estate market linkage

6.1 Matching mechanism

The linkage between tourism real estate and commercial real estate market is not only reflected in the linkage of shopping behaviors, but any behaviors such as joint development, recreation shopping, exhibition tourism, etc., which are related to “buy” and “sell” in the market, can be regarded as real estate of business travel. The basics of market linkage; the linkage system between tourism real estate and commercial real estate market has emerged in real life: the system boundary is ambiguous, and may also have fractal-ism. One system and other systems are in the boundary area. Infiltration, cannot be completely separated by limited steps.

6.2 Synergistic mechanism.

Collaboration means the association between system elements. With the help of network and network dynamics, it mainly studies the information exchange and interaction between the nodes of the commercial and real estate linkage market, and promotes the prosperity of the local economy through the linkage of business and travel, and promotes cooperation and win-win between industries.

6.3 Safeguard

Formulate a guarantee mechanism of government linked by the business travel real estate market: realize the transformation from economic function to economic and service combined function, and weaken the negative benefits of “property rights area”. Then we rationally locate the scale, development speed and time series of tourism economy. The basic premise of determining the size of the ecological environment carrying capacity is aimed at the development of “symbiosis”.

6.4 Process evolution mechanism.

In the linkage process of the commercial real estate market, the policy-oriented coupling, the coupling of capital demand, the coupling of risk dispersion and the coupling of capital appreciation are emphasized, and the process evolution is emphasized. The long-term game process and linkage process of the main body of the commercial real estate linkage market In the middle, it is important to pay attention to whether the dynamic changes in the linkage process of the commercial and real estate market can be effectively controlled.

7. Coupling model of linkage between commercial real estate and tourism real estate market

At present, the coupling models are as followed, capacity coupling model in physics, coupling degree model of tourism and urbanization, coupling network model, coupling coordination degree model, coupling model based on double helix progressive.

7.1 A coupled model based on big data technology.

As the degree of coupling between software and hardware decreases, the management of storage hardware devices becomes more and more automated, and storage services become more flexible. Automation means that the management of storage services shields the heterogeneity, centralized management and distribution of hardware devices.

The tight coupling between software and hardware is that storage vendors begin to develop storage virtualization tools, integrate existing storage resources, and provide a unified hardware resource interface; software and hardware are semi-coupled; software and hardware are loosely coupled.

7.2 A coupled model based on fractal theory.

The boundary of the commercial real estate linkage system is ambiguous, and its complexity (multiple types, wide geographical areas, large regional theory, etc.) may make its boundaries more fractal.

In the social sciences, the structure of the system, the structure of the market, and the structure of the organization also have fractals, which provide important ideas and methods for studying complexity. Fractal dimension is an objective tool for measuring the degree of "irregularity" and "complexity" of fractal sets. Fractal dimension can describe the degree of complexity of a dynamically evolved system.

Correlation dimension as followed. Let X_1, X_2, \dots, X_n be the solution sequence of a type, location area, etc. of the system, so that $\{1, \varepsilon - |X_i - X_j| \geq 0, \theta(\varepsilon - |X_i - X_j|) = \{0, \varepsilon - |X_i - X_j| < 0\}$ $C(\varepsilon) = 1/N \sum_{i,j} \theta(\varepsilon - |X_i - X_j|)$.

If $\lim_{\varepsilon \rightarrow 0} \ln C(\varepsilon) / \ln \varepsilon = D_2$ exists, then D_2 is the associated dimension of the business real estate linkage system.

7.3 Coupling model established by the principle of synergy.

Synergetics, also known as synergy, successfully explains the local and the whole system and the most essential things in the development process from simple to complex, from low-level to high-level, from disorder to orderly stability.

According to the principle of synergy, the model is established as follows.

Among them, U_1 is the comprehensive development level of commercial real estate market; U_2 is the comprehensive development level of tourism real estate market; X is the characteristic vector of commercial real estate market subsystem; Y is the characteristic vector of tourism real estate market subsystem; t is time; C is coordination degree T is the comprehensive development level of the two systems; D is the coupling coordination degree; θ, α, β are the undetermined parameters; $\theta = 0.5$ (the study considers the comprehensive development level of the commercial real estate market and the comprehensive development level of the tourism real estate market are equally important) In the commercial real estate market linkage system, take $\alpha = 0.3, \beta = 0.7$.

8. Empirical analysis of coupled models based on the principle of synergy

Evaluation model for comprehensive development level of commercial real estate market and tourism real estate market. The linear weighting method is used to measure the comprehensive development level of the commercial real estate market and the tourism real estate market. The specific formula is as follows.

$$U_i = \sum_j W_{ij} U_{ij}$$

Among them, U_i is the comprehensive evaluation value of the i -year of the comprehensive development level system of the commercial real estate market and the tourism real estate market. U_{ij} is the contribution of the index j to the system's efficacy. And W_{ij} is the weight of the indicator. The power contribution U_{ij} represents the role of the indicator on the system, and the indicator is processed by the positive power function, and the W_{ij} is determined by the expert.

8.1 Data acquisition.

The raw data of the comprehensive development level of the commercial real estate market and the comprehensive development level of the tourism real estate market are from the 2006-2015 data of the China National Bureau of Statistics website.

8.2 Analysis of the results

According to the coupling level of 2006-2015, it is judged that the comprehensive development level of the commercial real estate market is poor (may be related to the statistical data used only for the real estate data of office buildings and commercial business buildings), and the comprehensive development level of the tourism real estate market is good (It may be related to the use of statistical

data for other purposes of the real estate data). The level of coupling and coordination of the business travel real estate market is on the verge of imbalance and reluctance.

Recommendations as follows. Formulate micro and macro policies for the development of relevant commercial real estate markets, promote synergy development within the commercial real estate market; formulate micro and macro policies for the business travel real estate market, and accelerate the coordinated development of the business travel real estate market.

Future research will be improved in the following aspects. Firstly, a more in-depth discussion on indicators selection, method application and scale selection. Secondly, conduct comparative analysis with other regional research cases to explore the deep features and mechanisms of coupling.

9. Development proposals for commercial real estate and tourism real estate

9.1 Strengthen management to achieve sustainable development of tourism destinations

Due to the tourist attractions developed by the government, the scenic spots owned by the enterprises and the local residents enjoying the right to use the resources at the same time, the macro-planning and micro-development of the tourist areas are disordered; the ownership, management and use rights are often mixed. This creates complex confusion and inefficiency in development and management. Therefore, it is necessary to further change the traditional management system, determine a unified management department, give full play to the guiding and coordinating functions of the tourism destination management committee, and ensure the supervision of the institution. The tourism enterprise has the right to use the scenic spot to realize the unification of the scenic spot resources. Planning, rationally controlling the amount of mining, ensuring the conservation of resource utilization, and achieving sustainable development of the tourist area.

9.2 Relying on the central city, clear the source market

Regional development of tourism real estate key tourism destinations must make full use of the favorable conditions of the city center area, such as the economic strength of rapid development, an increasingly large talent team, etc., relying on the big cities to expand their tourism and tourism real estate throughout the circle. The impact is to strive to raise awareness in the country and achieve the purpose of promoting tourism development and real estate sales. Meeting the needs of the source market is the focus of tourism development. It is also the foundation of the development of tourism real estate. Therefore, we must first define the source market of tourism real estate.

8.3 Clarify the image of tourism and improve the visibility and reputation of tourism destinations

Tourism destinations need to clarify their tourism image, and combine the dual forces of enterprises and the government to carry out various types of tourism marketing activities within the target market, gradually increase the popularity and reputation of the tourism destinations, and finally form their own unstoppable tourism brands.

9.3 Enriching the tourism product system

In order to avoid the emergence of homogenized products of real estate projects, tourism real estate should be diversified in development concepts, development models and development technologies, such as: creating a green concept of ecological, low-carbon, slow life, and building distinctive features. The tourism and leisure complex integrates advanced science and technology and ecological protection concepts, develops a tourism circular economy, guarantees the rational exploitation and use of water resources, and complements the surrounding environment and tourism resources in the function of real estate projects. On the basis of the functions, the functions are perfect and the facilities are complete, which fully meets the needs of people to cultivate and adjust their minds.

Rational positioning of tourism real estate theme The advantages and disadvantages of tourism real estate development will have a greater impact on the level of tourism development. In order to ensure that its tourism real estate development can effectively meet the needs of the tourist market, tourism real estate should rationally determine its tourism real estate theme on the basis of full market research, rather than blindly pursuing high-end, luxury and high-priced products. Future real estate products

should gradually transition to an economical and popular level to meet the desire of mass tourists to achieve “scenario home ownership” and purchase “second home”.