

# Research on Multi-Subject Innovation and Joint Development Mode of Cultural Tourism Products

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**Abstract.** This paper focuses on the homogenization of domestic cultural tourism product design, focusing on its low level of industrialization and marketization, and is committed to building a systematic, applicable, and efficient multi subject innovation and joint development model of cultural tourism products. Based on the theories of cultural tourism products, innovation consortia and product value chain, this paper discusses the construction and operation of the multi subject innovation and joint development model of cultural tourism products from the aspects of its connotation, characteristics, structure and operation mechanism. This paper summarizes the concept of the multi subject innovation and joint development model of cultural tourism products, constructs the operation mechanism of the multi subject innovation and joint development model of cultural tourism products, and puts forward suggestions for the development of cultural tourism products.

**Keywords.** cultural tourism products; multiple coordination; innovation union; development mode

## 1. Introduction

The integration of culture and tourism is a new development trend of cultural industry and tourism. With the continuous development of economy and society, many tourists are no longer satisfied with the simple punch-in sightseeing tour of tourist attractions, and instead pursue higher-level material civilization and spiritual civilization enjoyment. Cultural tourism is rising unconsciously, and cultural tourism products are the sum of tangible entities and intangible services provided by businessmen in order to meet the cultural and spiritual needs of tourists, they are cultural, commemorative and experiential [1]. Cultural tourism products are an important part of the cultural tourism industry chain, which can be used as an important carrier of cultural tourism marketing. It helps to create cultural symbols, promote the prosperity of tourism economy, extend the length of tourism industry chain, and improve the comprehensive tourism industry system. Therefore, many developed countries and regions in the tourism industry attach great importance to the development of cultural tourism commodities. The development of cultural tourism products has the characteristics of complexity, dynamics and uniqueness. A single innovation subject is not enough to support the continuous optimization of cultural tourism product development. It needs to integrate the advantages of multiple

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innovation subjects to achieve marketization, commercialization and industrialization. Therefore, this paper explores the development mode of the multi subject innovation consortium of cultural tourism products, and creates a brand of cultural tourism products with unique cultural connotation by integrating various cultural tourism product innovation subject resources. It is expected to enhance the cultural value bearing capacity of tourism products through the power of design, and at the same time enhance the tourists' sense of cultural tourism experience.

## **2. The connotation and characteristics of the multi-subject innovation and joint development mode of cultural tourism products**

### *2.1. The connotation of the multi-subject innovation and joint development mode of cultural tourism products*

Nowadays, there is a lack of research on the connotation of the multi-subject innovation and joint development mode of cultural tourism products, and it is a special type of cultural tourism product development mode. Therefore, the paper tries to define the multi-subject innovation and joint development model of cultural tourism products from the definition of the relevant concepts of innovation consortium and product development model. The innovation consortium is different from the traditional cooperation forms such as industry-university-research collaboration and strategic alliances, its construction requires different innovation entities to invest certain resources, including technology, capital, talents, infrastructure, etc. to establish a collaborative mechanism and share innovation results, the ultimate goal is to achieve mutual benefit and win-win results<sup>[2]</sup>. On the one hand, the characteristics of innovation consortiums over-lap with those of strategic alliances and industry-university-research collaborations, such as collective, organizational, growth, openness, and goals<sup>[3]</sup>. On the other hand, innovation The consortium has unique characteristics, such as the direction of innovation follows the market orientation, the equity of each innovation subject is tied to each other, and the entities of the innovation subject are related to each other<sup>[2]</sup>. Common product development models mainly include independent development, authorized development, cooperative development, etc. Its development process is subdivided into five stages: creative development, concept positioning, product design, testing optimization, and market promotion<sup>[4]</sup>. Therefore, based on the concept and characteristics of innovation consortium and product development model, this paper defines the multi subject innovation joint development model of cultural tourism products as: to improve the quality of cultural tourism product development and promote the development of tourism economy, based on government policy support and the current innovation environment, to gather core enterprises, upstream and downstream enterprises of the supply chain, universities, scientific research institutions, competitive enterprises, intermediaries Users and other innovative subjects, all of which achieve resource coordination through innovative combination, and form a cultural tourism product innovation ecosystem with core enterprises as the main body, market as the guide, and multiple subjects deeply integrated<sup>[5]</sup>.

## *2.2. The characteristics of multi-subject innovation and joint development mode of cultural tourism products*

According to the definition summarized, the characteristics of the multi-subject innovation and joint development model of cultural tourism products can be obtained: (1) Ecosystem: There are ecosystem characteristics of symbiosis, competition and cross-border integration among various innovation subjects. (2) Dynamic: During the operation of the multi subject innovation and joint development model of cultural tourism products, the relationship and coordination mechanism of each innovation subject will change with the change of the product development stage, and the policy environment, market environment, cultural environment, economic environment and other environmental factors will change. These factors will make the boundary of the development model change dynamically, and the interaction between innovation subjects will change accordingly. (3) Complexity: The development of cultural tourism products needs to take into account both market efficiency and cultural connotation. It has the characteristics of great difficulty in product development and serious homogeneity in design. Moreover, there is a symbiotic competition and cooperation relationship among various innovation subjects, the innovation environment will also affect product development, they leads to the complexity of the multi subject innovation and joint development model of cultural tourism products.

## **3. The structure of the multi-subject innovation and joint development model of cultural tourism products**

The multi-subject innovation and joint development model of cultural tourism products consists of two parts, including the innovation subject and the innovation environment. The innovation subjects include government, intermediary institutions, universities, scientific research institutions, core enterprises, competitive enterprises, resource complementary enterprises, users, financial institutions, etc. The core enterprise is the leading force in the construction of the multi-subject innovation and joint development model of cultural tourism products. It forms a close interactive relationship with other innovation subjects through supply chain coordination, industry university research coordination, resource coordination and other ways, and participates in the whole process of cultural tourism product innovation and development<sup>[6]</sup>. The upstream enterprises of the supply chain provide production materials for cultural tourism products according to the needs of core enterprises, and the downstream enterprises of the supply chain provide real user data and user feedback according to the market sales. Resource complementary enterprises expand the available resources of core enterprises, form resource matching relationship with core enterprises, and cooperate with each other to help the creation of a multi-subject innovation and joint development model of cultural tourism products. Competitive enterprises provide external competitive pressure for core enterprises and promote the innovation ability of core enterprises. Universities and research institutions are the main providers of knowledge resources, they play the role of knowledge production, knowledge accumulation and knowledge sharing in the multi-subject innovation and joint development model of cultural tourism products. Their accumulated knowledge achievements are the basis of cultural tourism product development and innovation activities<sup>[7]</sup>. The government plays a guiding role in the multi subject

innovation and joint development model of cultural tourism products, and it is the primary subject for coordinating the innovation activities of various subjects. The government mainly stimulates enterprise innovation by formulating policies, issuing innovation vouchers, providing in-novation subsidies and other measures. At the same time, it uses macro means to allocate resources to help the multi-subject innovation and joint development of cultural tourism products in a healthy and orderly state [8]. Intermediaries play an auxiliary role in the multi-subject innovation and joint development model of cultural tourism products. They can connect different innovation subjects, build a public service platform and provide high-quality, professional and customized business consulting or intermediary services, which can promote the resource complementarity between different innovation subjects. Cultural tourism product innovation needs to meet the needs of users. Users play the role of supervisor in the multi-subject innovation and joint development model of cultural tourism products. They are communicators of cultural tourism and can promote the non directional transmission of characteristic tourism culture. Therefore, users are important value creators. Users are the direct inspectors of the innovative design quality of cultural tourism products. After purchasing cultural tourism products, users will exchange their true feelings of use with enterprises to provide original creativity and use feedback for the innovative design of cultural tourism products. They can promote the continuous optimization design of cultural tourism products. Financial institutions play the role of supporters in the multi-subject innovation and joint development model of cultural tourism products. They mainly provide financial support to maintain the normal operation of cultural tourism product innovation and development activities. As shown in Table 1.

**Table 1.** The innovative subject and its function of the multi-subject innovation and joint development model of cultural tourism products

innovation subject	The role	Function
Core enterprises	Leading role	They Participate in the whole process of cultural tourism product innovation and development.
Government	Guiding role	The government mainly stimulates enterprise innovation by formulating policies, issuing innovation vouchers, providing innovation subsidies and other measures.
University and research institutions	Knowledge Provider	They play the role of knowledge production, knowledge accumulation and knowledge sharing.
Competitive enterprises	Competitor	They external competitive pressure for core enterprises and promote the innovation ability of core enterprises.
Resource complementary enterprises	Collaborator	They expand the available resources of core enterprises.
Upstream enterprises of the supply chain	Supporter	They provide production materials for cultural tourism products according to the needs of core enterprises.
Downstream enterprises of the supply chain	Supporter	They provide real user data and user feedback according to the market sales.
Users	Supervisor	After purchasing cultural tourism products, users will exchange their true feelings of use with enterprises to provide original creativity and use feedback for the innovative design of cultural tourism products.

Financial institutions	Supporter	They mainly provide financial support to maintain the normal operation of cultural tourism product innovation and development activities.
Intermediary institutions	Auxiliary role	They can connect different innovation subjects, build a public service platform which can promote the resource complementarity between different innovation subjects

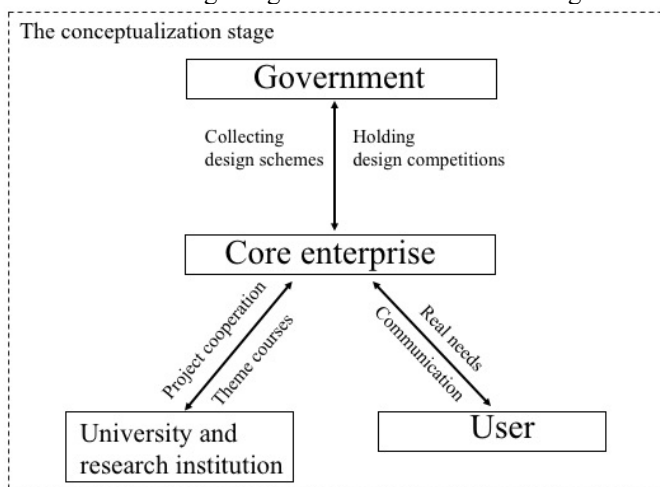
The innovation environment includes market environment, cultural environment, economic environment, policy environment, etc.<sup>[5]</sup>The market environment mainly includes market demand and market competition. The premise for core enterprises to carry out cultural tourism product innovation is to meet market demand. Meeting the market demand is conducive to core enterprises to obtain user satisfaction in the fierce market competition and occupy the market share first. When the market competition pressure is too great, enterprises are easy to launch a price war in order to quickly seize the market, while ignoring the innovative quality of cultural tourism products. However, appropriate market competition pressure will improve the innovation efficiency of cultural tourism products of core enterprises. Therefore, it is necessary to maintain a healthy market environment to ensure the healthy operation of the multi-subject innovative joint development model of cultural tourism products. Cultural environment is the environment for cultural tourism product innovation, which includes users' recognition of cultural tourism and strong desire to purchase products, core enterprises' willingness to develop cultural tourism products, government policy support for cultural tourism product development, financial support provided by financial institutions, etc. These factors will affect the development strategy of cultural tourism products. The economic environment refers to the level of economic development of a region. The higher the level of economic development, the higher the region attaches importance to the development of cultural tourism industry, the efficiency and quality of cultural tourism product development will in-crease accordingly. Therefore, a good economic environment can provide strong support for the development of cultural tourism products. The friendly policy environment can stimulate the innovation of cultural tourism products. The government formulates policies to regulate the multi-subject innovation and joint development activities of cultural tourism products and ensure the sustainable development of the multi-subject innovation and joint development model of cultural tourism products.

**4. Operation mechanism of the mode of multi-subject innovation and joint development of cultural tourism products**

In order to understand the operation mechanism of the multi-subject innovation and joint development model of cultural tourism products, and combine its connotation and characteristics, we can introduce the relevant theories of innovation value chain to help ex-plain. The innovation value chain was formally proposed by Hansen and Birkinshaw, who believed that the innovation value chain includes three stages: creativity generation, creativity transformation and creativity diffusion. Later, some scholars integrated the knowledge production function into the connotation of the innovation value chain. They believed that the innovation value chain includes three processes: knowledge source,

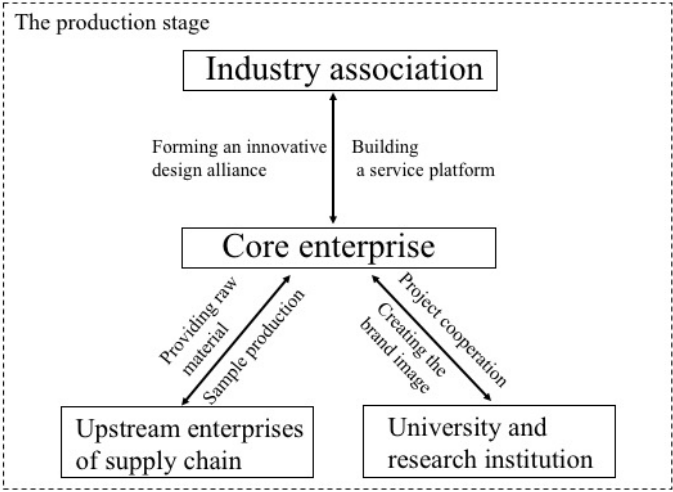
knowledge transformation and knowledge utilization. Some domestic scholars believe that a complete innovation value chain needs to go through four processes: basic research, application research, experimental development and commercialization, and the four processes are realized by different innovation entities, the academic research institutions are the innovation subjects of basic research and application research, and enterprises are the innovation subjects of experimental development and commercialization<sup>[9]</sup>.The product development process includes creative development, concept development, product design, testing, marketing, etc. which is consistent with the innovation process theory of the creative value chain theory, Based on the organic combination of the two theories, the product innovation value chain can be divided into three stages: conceptualization stage, productization stage and commercialization stage<sup>[10]</sup>.Therefore, based on the product innovation value chain theory, this paper constructs the operation mechanism of the multi-subject innovation joint development mode of cultural tourism products.

The conceptualization stage can also be called the concept development stage, which mainly includes the creative generation, design stage, project evaluation, etc. This stage involves the connection between the core enterprises and innovation subjects such as universities, scientific research institutions, users, industry associations, and governments. The core enterprises unite with other innovative subjects to form a creative development alliance, whose primary goal is to broaden the creativity of cultural tourism products. First of all, enterprises communicate with users and field trips to understand their real needs through online and offline communication channels such as online communities, enterprise websites, scenic spot websites, and field trips to understand their real needs. Sometimes users' needs may be subjective assumptions, so enterprises need to identify them. Secondly, the enterprise forms industry university research cooperation with universities, research institutions and other innovative subjects in the form of project cooperation and theme courses to carry out creative development of cultural tourism products. Finally, enterprises can seek the help of the government and industry associations to broaden the creative sources of cultural tourism products by holding design competitions and collecting design schemes. As shown in Figure 1.



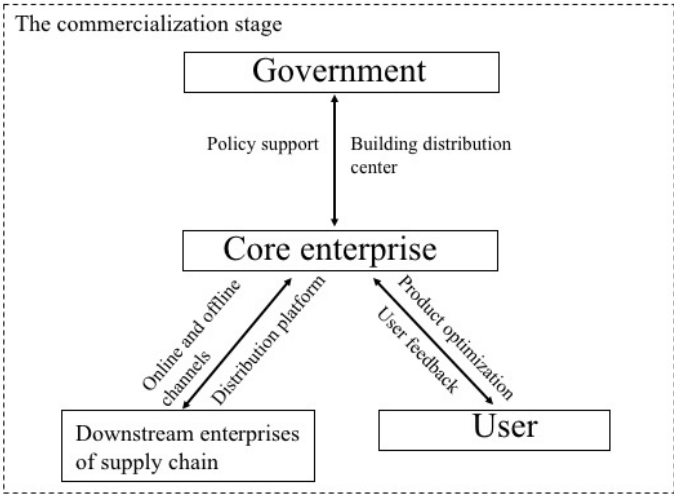
**Figure 1.** Operation mechanism in conceptualization stage.

The production stage can be subdivided into product design and development, sample production and inspection. It mainly involves core enterprises, upstream enterprises of the supply chain, universities, scientific research institutions, industry associations and other innovation entities. The core enterprises form an innovative design alliance for cultural tourism products with relevant innovation entities. First of all, the core enterprises use the advantages of the industry association to build a service platform for innovative design of cultural tourism products, which connects various links of cultural tourism product innovative design to form an innovative design alliance of cultural tourism products. Secondly, the enterprise cooperates with universities, upstream enterprises of the supply chain, scientific research institutions and other innovative entities to create the brand image of cultural tourism products, and it is committed to improving the brand status and expanding the market influence from product design, corporate image design, business model design and other aspects. Finally, the upstream enterprises of the supply chain provide raw materials for products and complete the sample production. As shown in Figure 2.



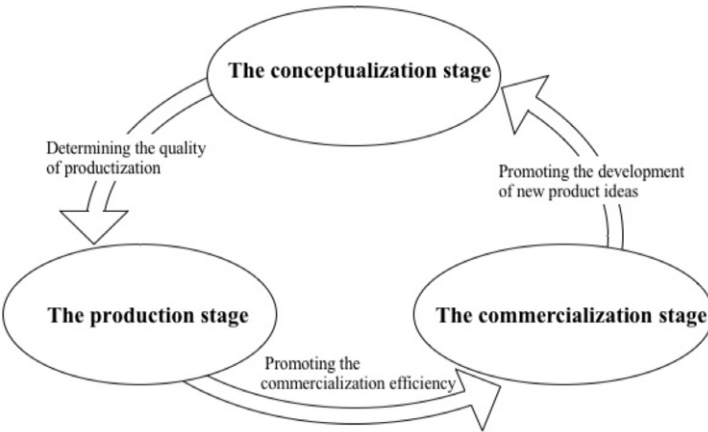
**Figure 2.** Operation mechanism in productization stage.

The commercialization stage includes product launch, marketing, etc. It mainly involves core enterprises, governments, intermediary institutions, competitive enterprises, users and other innovation entities. Core enterprises form cultural tourism product promotion alliances with other innovation entities. First of all, the government plays a leading role and issues relevant policies to build a healthy and good market environment for cultural tourism products and a distribution center for cultural tourism products. Secondly, build an online and offline integrated cultural tourism product purchase and distribution platform to expand product sales. Finally, enterprises can cooperate with users to establish product communities and collect user feedback and other information. As shown in Figure 3.



**Figure 3.** Operation mechanism in commercialization stage.

In the operation process of the development mode, the achievements in the productization stage and commercialization stage will promote the development of new product ideas, while the quality improvement of the achievements in the conceptualization stage and productization stage can promote the improvement of their commercialization efficiency, Commercialization value provides continuous power for its new round of conceptualization and productization. Therefore, these three stages are complementary and interactive organic forms to jointly promote the effective operation of the multi-subject innovation and joint development model of cultural tourism products, as shown in Figure 4



**Figure 4.** Complementary and interactive forms of the three stages.



## 5. Suggestions

### *5.1. It is necessary to improve the innovation governance ability of government departments and optimize the innovation environment of cultural tourism products*

The government plays a leading role in the diversified and coordinated innovation activities, and it is an important subject in coordinating the innovation activities of various subject. First of all, the government needs to strengthen the top-level design to clarify the strategic position of cultural tourism product development, and at the same time formulate the overall plan for the the multi-subject innovation and joint development model of cultural tourism products. Secondly, the government should restrict the innovation behavior of all subjects, coordinate the collaborative relationship of innovation subjects, and build a multi subject information communication platform to broaden communication channels. Finally, the relevant functional departments of the government need to strengthen cooperation with the media to promote the development of cultural tourism products. The government supports all innovation subjects to carry out cooperation and exchange activities such as cultural tourism product innovation salons and industry forums, so that multiple parties can learn from each other's experiences and enhance the cohesion and centripetal force among innovation subjects.

### *5.2. The core enterprises should strengthen innovation management capabilities and establish a collaborative trust mechanism for innovation subjects*

The innovation ability and management ability of core enterprises directly affect the quality of commodity development. Therefore, it is extremely important to enhance the innovation ability and management ability of enterprises. First of all, enterprises should regard the innovative development of cultural tourism products as a process with structural and systematic characteristics. Enterprises can implement phased management on the innovative development of cultural tourism products according to the product innovation value chain. Secondly, enterprises can build the basic framework of the multi-subject innovation and joint development model of cultural tourism commodities with the assistance of industry associations. According to the resource advantages of universities, scientific research institutions and R&D departments of enterprises, enterprises can assign tasks and share research results. Thirdly, the core enterprises identify the resource advantages of enterprises in different fields through cross-domain search. The core enterprises integrate heterogeneous resources using network information technology, and the enterprises need to build an open platform for sharing innovation achievements to help complement heterogeneous resource. Finally, core enterprises should strengthen the information exchange and feedback be-tween all aspects of product innovation. Based on the digital platform, core enterprises should ensure the transparent management of product development progress, this is to prevent the trust crisis caused by the untimely exchange of information among all subjects.

### *5.3. Colleges and universities and scientific research institutions should improve their innovation and collaboration capabilities to form an industrial talent transport chain*

In the mode of multi-subject innovation and joint development of cultural tourism products, universities and scientific research institutions are the main sources of

knowledge innovation and knowledge accumulation. Therefore, universities and scientific research institutions should improve their innovation synergy ability. They can carry out interdisciplinary, cross professional and cross institutional cooperation to tackle key problems. At the same time, they should carry out application research around the innovation needs of cultural tourism products, and cultivate application-oriented talents. First of all, based on the strategic policy of "improving the development quality of cultural tourism products", the core enterprises will take the lead to jointly establish a joint research and development experimental base for cultural tourism products with relevant enterprises, universities, scientific research institutions, etc. Enterprises provide start-up funds, universities and research institutes provide talents and technologies, and enterprises and industry, university and research institutes participate in the protection of jointly developed patents, which can be freely used for free. All subjects have equal status and are closely combined on the basis of trust and contract, and all subjects exchange and learn from each other to quickly complement technical weaknesses. Secondly, the school can formulate a talent training program that combines production, teaching, research and application. The school can adjust the curriculum of disciplines according to the needs of cultural tourism product development, and then establish a discipline and specialty system that closely connects the industrial chain, innovation chain and supply chain. Discipline development and industrial cultivation are carried out at the same time, forming an industrial talent transmission chain.

#### *5.4. Users improve their innovative interaction ability and build a user co creation mechanism*

User co creation refers to the process of value creation between core enterprises and users through deep interaction and collaboration. Users play different roles in different stages of product development, they can be regarded as demand providers in the conceptualization stage, co creators in the productization stage, and product users in the commercialization stage, therefore, users are important value creators of cultural tourism products. The realization of user co creation can enable users to obtain better consumption experience and sense of participation achievement, at the same time, it can also improve the development efficiency of enterprises, reduce development costs, and improve economic returns. First of all, knowledge co creation can be achieved by deepening user interaction, enterprises should break the space and time constraints, they can use information technology and Internet platforms to provide more convenient ways for users to participate in enterprise innovation activities. At the same time, they should create a good innovation environment for customers, and guide users to participate in the development of cultural tourism products through information sharing, responsibility sharing, interpersonal communication, etc. Enterprises can effectively improve product development performance through these methods. Secondly, in the face of the rapidly changing market environment, enterprises should quickly identify the real user needs, and should always adhere to the attitude of agile response to strengthen communication and contact with users. Finally, we should increase the authorization to users and provide them with the right to make joint decisions. Users can not only participate in different links of the product innovation value chain, but also participate in enterprise management activities.

## 6. Summary

Based on the analysis of the connotation, structure and characteristics of the multi-subject innovation and joint development model of cultural tourism products, and the related theory of the value chain of joint product innovation, this paper clarifies the operating mechanism of the multi-subject innovation and joint development model of cultural tourism products, and expounds the collaborative relationship of the multi-subjects in each stage of the development model. This paper combines the theoretical analysis to get the following conclusions: (1) The multi-subject innovation and joint development model of cultural tourism products is ecological, dynamic and complex. (2) In the process of the operation of the multi-subject innovation and joint development model of cultural tourism products, the conceptualization stage, the productization stage and the commercialization stage are complementary and interactive, and each innovation subject cooperates to promote the formation of the cultural tourism product innovation consortium. (3) It is an important driving factor for the healthy operation of the multi-subject innovation and joint development model of cultural tourism products that each innovation subject defines its own responsibilities. However, the construction of the mode of multi-subject innovation and joint development of cultural tourism products is a comprehensive research problem that requires the combination of theory and practice, and it is also a research problem with dynamic development. This paper only describes its connotation, structure, characteristics and operation mechanism, but its cooperative dynamic mechanism and dynamic evolution mechanism need to be further studied.

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