Study on Establishment of Eco-industrial Chain Based on Eco-efficiency: A Case Study of Tourism

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Abstract. The Chinese traditional economic development model, resulting in China's rapid economic development, but at the same time, also to the natural resource and environmental system in China caused irreversible damage. At present, we urgently need to transform the economic development pattern, and the eco-efficiency of eco-industrial chain is based on certain regional basis, Enterprise simulation of the natural environment in this area, reduce pollution and destruction. But the traditional research of industrial chain concentrated in the enterprise organization, logistics and other factors, but neglected the subjective factors, at the same time, the general research on ecological industry concentrate on the agricultural and industrial areas, while ignoring the tertiary industry which is gradually play a great effects. This paper is based on the tourism industry as the representative, attaching importance to the subject characteristics of enterprises, study the formation of the ecological industry chain based on ecological benefit. Since put into effect the reform and opening-up policy, China's economic have been great development, but the traditional industrial developmental pattern, bring the economic development and at the same time, also causes a series of problems for example the waste of resources, energy shortages, environmental pollution, ecological destruction. This allows us to rethink our country economy development, seeking the path which meeting with the rule of natural development. The natural law of development in the final analysis is recycling and renewable, so to build a fusion of upstream and downstream enterprises of the ecological industry chain is the inevitable trend of development. Generally we think that ecological benefit and ecological industry chain is for industrial development, but with the development of the tertiary industry and the influence of society deeply, but also is of great significance to construct the ecological industry chain of the tertiary industry, this study use the tourism as the representative, research on how to travel between enterprises based on ecological benefit to build tourism industry ecological industry chain.

Introduction

The Eco-industrial Chain

The development mode of eco-industrial chain is new developmental pattern, linear model of development that is from resources to products, the finally is pollutant and the emission of waste, which not only brings great pressure to the regeneration and degradation of natural systems, it will also bring huge waste. The eco-industrial chain imitate the way of natural ecological processes of material circulation. Through the enterprise each other's resources as well as the final products and ancillary products such as the formation of upstream and downstream enterprises as the link, through mutual cooperation to achieve circular flow of resources in economic development in the region, the best use of resources, reducing emissions of pollutants [1].

The Eco-efficiency

The Eco-efficiency is the standard of evaluate the economic development to the importance of environmental protection. The Eco-efficiency is not completely only concerned about the
environment, but also for the development of ecological and economic. This concept shows, overall social progress and development not only depends on the development of economy but also on the coordination in the environment. It is depend on both. As a standard of value judgment, The occur of the Eco-efficiency is in order to promote enterprise in this time to conduct and decision to give consideration to the environmental capacity, at the same time, under the pressure, to promote the development of ecological industry chain as a decomposer enterprises.

**The Structure of Eco-industrial Chain**

The eco-industrial chain is similar to the nature of the food chain, existence of producers, consumers and decomposers. And the three of them are not independent, but contact with each other and dependence. Matter and energy transfer among producers, consumers and decomposers and form a closed system. The eco-industrial chain is the imitation of the cycle, in a certain area, building materials processing industry, manufacturing, production, utilization of waste decomposition such as different levels of enterprises, these enterprises cooperation form industrial clusters. The enterprise according to the different position in the region and in different links in the production to assume similar to the producers, consumers and decomposers role. At the same time in a certain area. The eco-industrial chain is not the only one, with the increasing of the regional products and the cooperating of business, it will form a plurality of ecological industry chain intersect each other [2].

**The Study of The Eco-industrial Chain Reform**

Because of the eco-industrial chain for economic and environmental benefits of attention, the current study for the ecological industry chain focused on the ecological industry chain of different enterprise organization structure, the formation of the ecological industry chain of technical requirements, as well as the government role in the formation of the industry chain, but in the practice of the current industrial park, only pay attention to these factors can not be effective circulation in favor of industry chain in the enterprise each other raw materials and resources, research based on ecological benefit, pay attention to the main feature of the enterprise, is of great significance to the study of ecological industry chain.

**The Traditional Study**

The study mainly focuses on the ecological industry chain enterprises of different types of enterprise scale etc for the organizational factors of the eco-industrial chain formation. Organizational factors that if the enterprise quantity and types are not adapt to each other, will lead to excessive competition industry chain upstream and downstream enterprises collaboration or insufficient, eventually lead to rupture of the industrial chain. Technical factors mainly refers to the enterprise the by-product of cleaner production, waste resources, waste, recycling and reuse of business circulation and technology. Technology plays a key role in the formation of the ecological industry chain, but ignore the enterprise as a subjective initiative organization for technology attitude and whether the technology has a significant impact. The ecological industry chain is composed of different enterprises in the industrial chain in the involved, so the interests of different groups, so that the government policy is very important. The government department policies and regulations for enterprises, incentive and regulation, administrative intervention, taxation means, directly influence the formation of ecological industry chain and stability.

**The Effects of Ecological Benefit for Ecological Industrial Chain Formation**

Research on ecological benefits for ecological industrial chain formation different from traditional research in the ecological benefit is to realize enterprise is the basic and the most important factor in the formation of the industrial chain, the mutual trust and cooperation contribute to the raw materials and resources flow. While recognizing the subjectivity of enterprises, as well as the economic attributes. Ecological benefits through to the enterprise to mobilize the main form of two kinds of different incentive mechanism, the waste can be used to the greatest extent between different
enterprises. Enterprises to pursue economic interests, at the same time, the asymmetry of information between different enterprises based on the industrial chain upstream enterprises, the only by-product price in the price range within a certain range, so as to realize the governance and special waste possibility of dirty corporate profits and reuse of enterprise production. The internal mechanism to maximize mutual compromise between the utility enterprises. The degree of development of industry chain in the downstream enterprises will directly affect the enterprise can accept the high prices affect waste, high economic efficiency of enterprises, resulting in the formation of bound to each other, and eventually to the formation and stability of the development of ecological industry chain.

The Path of the Eco-efficiency to Promote Ecological Industry Chain

The ecological benefit as a standards for measure the degrees of development, It promote the formation of ecological industry chain from the aspects of enterprise by the greatest degree to mobilize the main.

The ecological benefits promote the ecological industry chain "decomposition" emergence and development. Different enterprises based on ecological benefit pursuit, degradation will take the initiative to seek its product waste and recycling. But because the production boundary businesses, produce and development expedites the emergence of specialized pollution control and waste recycling enterprises in such circumstances. At the same time, these specialized enterprises and upstream enterprises close cooperation, at the same time to improve production technology and process of, prompting the formation of ecological industry chain.

Ecological force to strengthen cooperation between enterprises. Ecological benefits will make the ecological industry chain emerge decomposer, at the same time these decomposers are asset specificity is very strong. The formation of traditional industry chain is often on different processing products, the processing can be for the same type of business, "decomposers" enterprises because of the special equipment, location specific, employee specificity makes the upstream and downstream enterprises of mutual dependence will get maximum strengthening. But in the open economic environment, enterprises will inevitably face a lot of uncertainties, which require more production enterprises and "decomposers" enterprises to strengthen cooperation so as to form a stable ecological industry chain.

Ecological benefits in order to strengthen cooperation between enterprises by various ways. In certain area, the decomposers in the ecological industry chain is for "producer". At the same time in order to deal with the changing environment, enterprises also need to continue to strengthen cooperation, in such circumstances, the enterprises in industry chain will form a large range of "alliance", on this basis, mutual cultural values of permeability between enterprises and different union utility will let enterprises to reduce speculative behavior in a large extent, thus has formed the stable state of ecological industry chain.

The Formation of Ecological Industry Chain in Tourism Industry

The tourism industry has a low pollution, low carbon naturally, but with the development of tourism industry, influence and ecological environment of tourism destination is also increasingly apparent, some behaviors of wastewater, waste gas, waste by-product from the development of the tourism industry and tourists also caused irreversible damage to the ecological environment. Construct the ecological industry chain for ecological tourism industry has become the inevitable choice for sustainable development of tourism industry.

The Transformation of the Development Model of Tourism Industry

Construct the tourism industry chain for ecological industry ecological is essentially the transformation of the development pattern of tourism industry. Re-knowing the side product bring from the tourism consumption and development process, the tourism resources exploited into tourism
products and then tourism waste emissions on the environment impact will eventually become the closed cycle regeneration system of tourism resources.

**The Structure of the Tourism Ecological Industry Chain**

Tourism industry is including travel, transportation, catering, hotel and tourism management from the tourism resources to destination management in short. Broadly speaking, it is mainly studied that including the farming industry and the media of traditional architecture and other aspects of the industry. But the processing enterprises to construct ecological tourism industry chain, we must also set up the enterprises that can be recycled recyclable tourism resources. Adding the environmental protection departments of tourism industry, the industrial structure of tourism industry is formed as shown in fig. 1:

![Figure 1. The structure of tourism ecological industrial chain.](image)

In the ecological industry chain of tourism industry, the environmental protection service enterprises is very important in the formation of recycling system. production enterprises and production enterprises which produced in the process of production and consumption of waste, degraded via environmental service enterprise, eventually make it back into to the tourism industry in its development process, its decomposition type as shown in table 1:

<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturing Enterprise</th>
<th>Produce Waste</th>
<th>The Decomposition of the Enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Catering</td>
<td>The leftover food</td>
<td>With the establishment of the decomposition and environment protection enterprises to form a specific asset.</td>
</tr>
<tr>
<td></td>
<td>Traffic</td>
<td>The exhaust emissions of the bus and private car</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shopping</td>
<td>The package of tourism product</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entertainment</td>
<td>The waste such as magazines, newspapers</td>
<td></td>
</tr>
</tbody>
</table>

**The Behavior of Enterprises to Construct Ecological Industry Chain**

The construction of tourism industry ecological industry chain is not only depend on tourist enterprise, but also the closely cooperation between different enterprises, formed between the upstream and downstream enterprises of resources flow. The upstream enterprises must nurture and protection of the scenic area, such as the cultivation of forest resources, at the same time, In the choice of the resources, we must actively promote use the traditional resources, such as clean coal, and make full use of renewable resources such as wind and solar energy. In the process of product tourism
products, it will reduce the destruction of the ecosystem in the source to use small low impact on the environment pollution resources. It must give the properly education for consumers in order to control and constraint behavior and reduce the effect on resources. The most important is establish the environmental protection enterprises in order to let the production of waste discharge can be smoothly into the downstream environmental protection enterprises and waste disposal. In order to realize the flow, the government carries out the corresponding policy to support the formation and the stable development of industry chain [3].

The Role of the Formation of Ecological Industrial Chain of Tourism Industry

The essence of tourism ecological industry chain is the division of labor, they will put all kinds of waste and by-products produced in the process of decomposition to reenter the circulation process of tourism products, production, so the enterprise is the key factor for the formation of the industrial chain, and in order to establish the ecological benefit, not only pay attention to the province's economic benefits, pay more attention to the environmental benefits, and through the incentive and restraint mechanisms of inside and outside, the ecological benefits can also affect the final economic benefits to the enterprise, this is the place that ecological philosophy can play a role.

The Ecological Benefits of Enterprises Produce Activity, the Ecological Industry Chain Expand

Generating a chain is need the members enhance the activity, the concept of ecological within its area of enterprises to establish a long-term and common development concept, focusing on its own development circumstances, also create opportunities for the upstream and downstream enterprises and value. Because of the ecological idea, enterprises must carry out their own wastes, but because the boundary of enterprise business, the enterprise deal with the waste that will bring the enterprise not economic behavior. But in some enterprises on the industrial chain, some resources or by-product is unavailable, but for some business it is the production of raw materials. At the same time as the two kinds of enterprise scale expansion, its raw material and the resources will be expanded, it will attract more enterprises in the region, while the enterprise increasing, the scope will be its business expansion, we will contact more closely, the network within the region and symbiotic chain will generate, the ecological industry the chain will be more stable [4].

The Ecological Benefit to Urge Enterprises to Generate Innovation Factor, the Ecological Industry Chain Develop Stably

Ecological benefit constraint the upstream and downstream enterprises, it will cause the prices can fluctuate in a certain range, in this case, downstream of the ecological service enterprises will benefit. In this case, a certain range of area breeds innovation factor or continuous innovation of enterprises, active factor will be strengthened, the ecological industry chain has been link closer, gravitational unceasing enhancement, the ecological industry chain will be develop stably.

Conclusion

At present, the mode of economic need change, the formation of the ecological benefit of ecological industry chain based on the industrial chain, the enterprises set up the concept of eco-efficiency, not only from the outside to make the ecological benefits of business and the interests of the whole society is consistent, in the enterprise, in order to achieve the enterprise's economic profit, it also can make its active and upstream and downstream enterprises to cooperate, to explain to the waste and by-products, thus reducing the impact on the environment

But at present, we must also recognize that practical eatable the ecological industry chain in a wide range is very difficult, it need high technical requirements to the ecological service enterprises, and need to form a cluster of industries, to a certain size, but also because specific ecological service
enterprise assets, also will bring adverse effects on the folk capital investment. Therefore, we must
eatable experimental base in a certain range, through the establishment of standardized ecological
industry chain, the government needs to support for the ecological industry chain at the end of the
environmental protection service enterprises, so that the ecological industry chain from scratch, and
gradually expanded, the industrial structure of our country to upgrade the overall.

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