

Mechanism analysis of the rapid formation of logistics modularity

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Abstract: This paper discusses the significance and role of rapid logistics. The formation of rapid logistics is the analysis of economics. And the fast modular path is explored. Two paths of the logistics module are proposed, and five analytical dimensions are presented. Finally, the matching of rapid logistics speed and agile supply chain is analyzed. The application prospect of rapid modularity in the international shipping field is proposed.

1. Introduction

At present, the modularization trend of shipping service industry is developing rapidly, changing from a single shipping industry to a comprehensive logistics service industry. The scope of logistics service has broken through the original traditional links of domestic logistics, and the profit sources of relevant shipping enterprises are diversified. The trend of logistics modularization has many characteristics, and the rapid formation mechanism of modularization has practical research significance and urgency. This paper selects the rapid formation mechanism as the research entry point of modular maritime service industry to realize the optimal matching of speed economy and scope economy in economy. Modular economic analysis can be analyzed from several dimensions, but optimizing the relationship between each dimension is the difficulty and focus of modular management.

2. Economic analysis of the rapid formation of logistics modularity

2.1 Speed economics analysis of logistics Modularity

The formation of logistics modularization has two aspects: efficiency and effect. Efficiency is a measure of the modular process, and the effect is a measure of the modular result. The modular effect directly reflects the modular economy, and the modular process indirectly reflects the modular economy.

The formation of modularization is a process, which has a certain economy. This economy has higher requirements for efficiency. Theoretically, the efficiency and effect of logistics process are interrelated, but not strictly corresponding. The correlation between the efficiency and economic benefit of rapid modularization process is possible.

In the process of modularization, it is usually difficult to predict the final result of modularization. At this point, the economic goal of modularization is fuzzy, uncertain, or even dynamic. This

uncertain and fuzzy goal will make it difficult to evaluate the economy of the goal. Dynamic and fuzzy modular results will also form uncertainty in the formulation of economic benefit measurement standards. This uncertainty in measurement standards usually coexists with measurement objectives. In this way, the measurement difficulties caused by double uncertainty are often difficult to overcome in the short term. In contrast, the efficiency of modular process has better measurement methods, that is, from the evaluation of modular dynamic objectives to the evaluation of modular process, the difficulty of evaluation is significantly reduced, and it has the advantage of speed economy in economics. The speed economy in theory is consistent with the efficiency in practice.

2.2 Scope and Economic Analysis of Logistics Modularity.

For the shipping service industry, logistics modularization can expand the service scope and extend the shipping service supply chain, which is of positive significance to the scope economy of the shipping service industry. Scope economy is the internal advantage and fundamental starting point of modularization. The modularization of marine service industry has obvious industrial and regional advantages. Marine service industry belongs to the core link of international supply chain and reflects the competitiveness of international supply chain. In terms of core competitiveness, shipping service industry is the source and integrator of competitiveness. For the upstream and downstream of international supply chain, shipping service industry has the role and status of core node. ^[1]

There is consistency between scope economics and marine resource integration. In the shipping service industry, resource module and capability module are inconsistent. In the shipping service industry, there are two paths: resource modularization and capability modularization. For transportation services, transportation services are usually asset light, which makes the shipping service industry embark on a modular road in the international supply chain. The path selection of competitive strategy has the characteristics of free choice. Marine service enterprises determine their own development path according to their own factor endowment.

Many shipping companies are basically located in ports or traffic arteries with superior geographical resources. These shipping companies usually cooperate with many related companies. These industry related enterprises often have the value of resource integration to supply chain integration. The capability of maritime service industry is not only the embodiment of enterprise soft power, but also the embodiment of hard power. The perspective of competitiveness based on capability is applicable to resource clusters, and the perspective of resource competitiveness is applicable to resource poor areas and industries. The author believes that there are two ways of modularization of marine service industry: modularization of marine service capability and modularization of marine service resources, Port cities or transportation hubs can be more urgently applied to capacity modularization, while less developed areas are more suitable for resource modularization, which provides an important premise for the choice of modular path. The scarcity of resources and capacity has become the main problem of competitiveness, which has become particularly important. ^[2]

3. Path analysis of the rapid formation of logistics modularity

3.1 Pathway classification for rapid modularity

It is difficult for resource-based modularization and based modularization to have a unified path in the rapid development. The rapid formation of resource-based modularization will bring the bottleneck problem of resource gap. The rapid formation of modularization usually does not have

the problem of resource gap. The rapid formation of logistics modularization is the requirement of resource scarcity, and resource scarcity is an important difficulty in the rapid formation of modularization. In theory, Resource scarcity is the basic factor determining rapid modularization, and there is a positive correlation between them. ^[3]

3.2 Resource-based fast-modular path analysis

Rapid modularization based on resources reflects the scarcity of resources. Under the condition of scarce resources, modular rapid organization is based on the integration ability of scarce resources, which can be reflected in several aspects. The first dimension is the ability to search related resources, the second dimension is the ability to identify related resources, the third dimension is the ability to obtain and negotiate related resources, the fourth dimension is the ability to use related resources, and the fifth dimension is the secondary processing and expansion ability of related resources. In the process of rapid modularization, the importance of these dimensions is different. In the case of resource scarcity, the first dimension and the second dimension are not so difficult. The third dimension is the most difficult and bottleneck, which also reflects the scarcity of resources. The fourth dimension and the fifth dimension belong to the scope of the normal operation ability of enterprises. These five business dimensions have different requirements for enterprises. The best way for enterprises to realize rapid modularization is to realize the effective integration of the five dimensions, and realize the effective matching and orderly implementation of the above five business dimensions. These five dimensions have a sequential relationship. This sequence is the sequence of business processes, not the necessary sequence of enterprise workflow. Enterprises can advance the construction and work scale according to the difficulties and priorities of the work, and the investment in relevant aspects is not balanced. Generally speaking, enterprises have a relatively priority in the links and fields where resources are scarce. As for the matching between the enterprise's future development strategy and the enterprise process, it is mainly to adjust the enterprise strategy, so that the enterprise's work efficiency and long-term performance can develop harmoniously. The five dimensions of business can use modular technology. In other words, the five dimensions of business can realize secondary modularization. In this way, this paper presents a new concept, namely multilevel modularization. The concept of multilevel modularization can better solve the difficulty of rapid modularization based on resources. ^[4]

3.3 Pathway analysis of capability-based rapid modularity

In port cities, various resources are relatively concentrated, and it is relatively easy to obtain these resources. The ability to adapt to the market directly reflects the competitiveness. This adaptability to the market is reflected in the enterprise management based on modular supply chain management, which directly reflects the ability of enterprises. Rapid modularization based on capability is the rapid development of supply chain. Rapid supply chain construction is a difficult enterprise strategy. The rapid construction of supply chain directly reflects the idea of modularization. Rapid modularization and agile supply chain are symbiotic. Their matching directly reflects the effect of agile supply chain. Logically, rapid modularization is the premise and foundation of agile supply chain. Agile supply chain requires rapid modularization, and agile supply chain puts forward requirements and directions for rapid modularization. Capability based modularization is constantly developing to adapt to agile supply chain. The flexibility of rapid modularization system directly reflects the flexibility of supply chain. The path of rapid modularization is the excuse to optimize modularization. The excuse for optimizing modularization is to optimize the modular physical interface and functional interface. Optimizing the external interface of the module can improve the speed of rapid identification. This rapid identification is

mainly used for the physical interface of the module. After the physical interface of the module is quickly identified, the rapid docking of rolling interface is the key. The rapid docking of roll interface is mainly based on the requirements of agile supply chain. Therefore, the functional interface optimization based on agile supply chain is the basis. The functional interface optimization of module can quickly realize modularization and quickly build an agile supply chain. ^[5]

4. Conclusion

The theory and method of logistics rapid modularization can be better applied to international shipping business. The expansion of international shipping business can form a flexible international goods supply chain. The agile supply chain with international shipping business as the core basically has the characteristics of transnational transportation and storage. This kind of transnational transportation is also supervised by the customs of more than two countries. Therefore, rapid modularization is of great significance for the rapid construction of international supply chain. The modular interface of each customs clearance link can realize the standardization construction. The standardization of this modular interface can be realized in two ways: on the one hand, the standardization of module physical interface and on the other hand, the standardization of module functional interface. The standardized communication between these two aspects speeds up the construction of supply chain and directly promotes the rapid modularization of logistics business.

References

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