

Modularity: New Competitive Strategy of Virtual Maritime Enterprises

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ABSTRACT. *Aiming at management of virtual shipping enterprises .Based on the vision of the future application of the Rotterdam rules, this paper explore the new application of modularity method. It will help the analyse of strategic partnership and promote core competitive of shipping enterprises, and also help MIS's uses. This paper presents the basic concept and difference of modularity of virtual shipping enterprises; and analyzes the economics about virtual shipping enterprises.*

KEYWORDS: *Virtual shipping enterprise; information modernization; modularization; boundary minimizing*

1. Analysis of core competitiveness of virtual shipping enterprises.

When the content and level of virtual shipping service change greatly, virtual shipping enterprise may face the lack of new resources and capabilities, and cultivating new core competitiveness may be a long-term process, which will also bring new risks to enterprises. Moreover, not all the resources and capabilities owned by enterprises can become strategic resources and capabilities, only those resources and abilities that can make enterprises form competitive advantage are (unique) competitiveness. [1] then, many logistics enterprises can not form their core competitiveness on their own. The module of virtual shipping enterprise provides the possibility to form the core competitiveness of logistics service. In particular, the Rotterdam rules that may be implemented in the future.

In view of the Rotterdam rules, virtual shipping enterprises will make a great difference in the future. Although the Rotterdam rules have not yet been implemented and many countries have not completed the corresponding legal procedures, many international virtual shipping institutions are studying how to operate in the future. Modularization is a good way.

The author believes that the key content of core competence management in virtual shipping enterprises is to correctly establish the minimum boundary between enterprises and modularization.

2. Research on minimum boundary theory of virtual shipping enterprise.

Generally speaking, in order to enhance their core competitiveness, virtual shipping enterprises must concentrate the cultivation of resources and enterprise capabilities to the areas and directions of building core competitiveness, and the departments and business fields of enterprises must shrink to the core departments and business areas to form a new enterprise boundary. At this time, if the enterprise only has the core competitive department and the business, then the enterprise has the reasonable economic enterprise minimum boundary. When enterprises shrink to the smallest enterprise boundary, it is mainly the change of resources to the core domain, which is the change of enterprise scale, which is the tangible scale boundary.

Through the alliance with other enterprises and the construction of supply chain to achieve the expansion and adjustment of enterprise capability, the role of core competitiveness permeates the supply chain and radiates the market, which is the invisible capability boundary. This is the concept discrimination that should be paid attention to in the application of enterprise minimum boundary theory. This also provides a reference for the reasonable scale boundary of modularization.

3. Analysis of virtual shipping enterprises and their core competitiveness.

The concept of virtual logistics was first put forward by Stuart et al., of the United States in 1996. Because the modern logistics involves many links, the regional span is large, the business scope is wide, the general logistics enterprise own resources and the service ability have the limitation, especially the general small and medium-sized logistics enterprise cannot have the ability to set up the huge entity network in the middle and early stage of the establishment. Moreover, in some narrow resource allocation space, the small and medium-sized logistics enterprises cause the waste of resource allocation and the vicious competition in the limited regional market. Virtual logistics enterprise is a dynamic alliance of logistics industry, which is composed of independent entity organizations with complementary resources and core competencies.

The enterprises in the alliance can break through the ties and time of property rights, search and exchange information in space, virtualize enterprise transactions, and have the characteristics of dynamic, temporary, complementary and symbiotic. The advantage of virtual shipping enterprise is that it enhances the agility of supply chain construction, which is of great significance to grasp market opportunity, quickly integrate social advantage resources and superior enterprise ability, and construct strong supply chain. It can realize speed economy, scope economy and symbiotic economy.

The shortcomings of virtual shipping enterprise are the short term of dynamic alliance enterprise transaction, the short promotion of communication, the discontinuity of information communication and the fragility of contract construction. That is, enterprises need to transition from simple game to repeated

game. The author thinks that the research method of principal-agent problem is helpful to analyze the partial solution of this disadvantage, and it is also possible to develop in the direction of modularization. Chen'an and Liu Lu explain the research on the relationship between upstream and downstream enterprises in supply chain through the idea of dual linear programming, and point out that there is an acceptable best scheme for both upstream and downstream, that is, "win-win" scheme. [2]

4. Modularization application mode and analysis of virtual shipping enterprise.

4.1 Modular analysis of virtual shipping enterprises.

The author thinks that the modularization application of enterprise resources should mainly do the modularization decomposition of enterprise resources, realize the minimum boundary of enterprise tangible from the enterprise scale, and concentrate the enterprise resources to the core field, while the modularization application of enterprise capability is mainly to do the modularization integration of enterprise ability, and try to form the best invisible boundary of enterprise capability. The modularization integration of enterprise capability is guided by the modularization integration of enterprise resources. This needs to determine the organizational model of enterprise modularization in the realistic management of enterprises. [3]

4.2 Modular organizational model of virtual logistics enterprises.

The modularization organization mode of virtual logistics enterprise generally has the following two kinds of choices:

First, the organization mode analysis under the coordination of core logistics enterprise. Under this mode, the core enterprise plays the role of formulating the inter-alliance rules of virtual logistics enterprises. This kind of rule includes explicit economic contract and implicit psychological contract. The core enterprise grasps the running beat and the service change range of the virtual enterprise, and grasps the introduction threshold of the enterprise group when constructing the enterprise alliance. The modular organization standard and operation technical standard of virtual enterprise are formulated by the core enterprise. The information platform of virtual enterprise is usually provided or designated by the core enterprise.

Second, the module cluster flattened the network organization model. In this mode, many enterprises and organizations are free to combine according to the supply and demand and matching of market resources and capabilities, and there is no obvious advantage of the core enterprises operating in the organization. Virtual enterprise transactions and exchanges rely more on the legal system and trade association rules. Under the coordination of trade associations and intermediary organizations, many enterprises and institutions communicate and negotiate to reduce the differences in understanding the rules. This model is usually

market-oriented, in the early stage of development, many enterprises in the industry are not fully developed, it is difficult to have a better core enterprises to play a role. Therefore, the network enterprise in the operation of a network organization behavior subject approved form feedback to each module business, through continuous dissemination, exchange, signal information processing, so that the design rules of the system are constantly improved, screened, and then form virtual enterprises and other approved rules. In this process, virtual enterprises and rules are adapting to each other and changing each other. The aggregation force of the module forms the rule, and the discrete force of the module is the change and optimization of the connotation of the virtual enterprise.

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