

Path Analysis of Optimization of International Container Multimodal Transport Standards

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ABSTRACT. *Aiming at the problem of container standard in international multimodal transportation, the author makes a technical and economic analysis of standard optimization. It is analyzed from two aspects: scientific nature and feasibility. It is considered that the scientific nature of container standardization is the driving force of container standard optimization, and the feasibility study reveals the resistance of standard optimization. This paper analyzes the path of container standard optimization, and puts forward some viewpoints and methods.*

KEY WORD: *Container Standard, International Multimodal Transport, path Analysis*

1. Introduction.

At present, the development momentum of international container multimodal transportation is very fast, and it has become the research focus of international logistics industry. However, the author finds that there is a realistic problem in container international multimodal transportation that affects the operational efficiency, which is the standardization of containers. There are many differences in the specifications of the main containers used by several major international trading powers. In particular, the main specifications of containers in China, Japan, the United States and Europe are different.

The international freight container shape is huge, the weight is heavy, completely needs the specialized container handling machinery to operate. Container special machinery and supporting appliances are generally designed according to the specific container size. This gives rise to the matching problem between container specification and container loading and unloading machinery specification. Different dimensions and specifications of containers will affect the efficiency of container handling and handling machinery. Too many container sizes and specifications in the process of international multimodal transportation will affect the asset specificity of enterprises. Asset specificity

is also an important part of technical economics. In addition, too many container sizes and specifications will also affect the economies of scale of enterprise operation.

2. Analysis of the difference of international multimodal container specifications.

Among The major economies in the world, there are many differences in the size of containers of major specifications popular in China, Japan, the United States and the European Union. China uses more standard containers of 20 feet and 40 feet, Japan uses more containers of 31 feet and 12 feet, the United States uses more containers of 35 feet, 45 feet, 48 feet and 53 feet, and the European Union uses more containers of 48 feet. The difference of container size and specification directly brings trouble to the matching of crane and truck. For containers of different specifications, hangers need to be replaced on university container handling machinery. For containers of different sizes, the applicability and economy of special trucks are greatly reduced, and many trucks cannot use containers more than 40 feet long. In addition, China's railway container trains can not carry more than 40 feet of containers. The complexity and diversification of container specifications cause the inconveniences of container circulation and affect the economy of container circulation. There will be rich containers of certain specifications, while containers of some specifications will be in short supply and will not be easy to adjust to each other. The more container specifications, the more empty containers are prepared, resulting in waste of container reserves.

At present, there are four main categories of container size specifications, which are divided into international standards, national standards, regional standards and company standards. The formation of all kinds of standards is the result of historical development, all of which have their traditional markets and supporting facilities. Either party abandons the original standard, that is, the abandonment of the original part of the assets. The unification of standards can improve the efficiency of international logistics system, but it results in the waste of original assets. The main type of international multimodal transport is containers. Therefore, the scientific nature and economy of container standardization has become a hot research issue in the field of management.

3. Research on the Countermeasures of Container Transportation Standardization.

3.1 Feasibility analysis of container equipment standard optimization.

From the scientific logical starting point, the specifications of containers should not be too much. The standards of similar dimensions and specifications of container equipment should be merged in order to realize the economies of scale, speed and asset specificity of container equipment. But scientists and entrepreneurs seem to have different perspectives, and their urgency for optimizing container specifications varies.

Here, the author puts forward the scientific and feasible priority of standardization, which is not only the innovation of the author, but also the innovation of this paper.

Entrepreneurs study the standardization and optimization of container transportation from the economic feasibility. The cost of sinking economically is a real problem. Abandoning the original standard means giving up some of the original assets, resulting in sunk costs.

In addition, for entrepreneurs, abandoning the original standards of enterprise implementation will damage the brand image of enterprises. Companies with their own special container standards are generally famous and large companies with a long history. Large enterprises, especially multinational shipping companies with global brands, pay more attention to the brand image of the company. Sticking to their own container standards seems to be a responsibility of enterprises, but also a way to demonstrate their ability to customers, but also a way to differentiated services for goods. Service differentiation is not only a kind of ability of enterprises, but also a means of displaying enterprise image.

The cost caused by abandoning or changing the original equipment and facilities is the direct cost, and the damage to the brand image caused by the change of the enterprise standard is the indirect cost. Both of them form obstacles to the optimization of container equipment standards and reduce the feasibility.

3.2 Path analysis of container transport standard optimization.

The optimization of container transportation standards, first of all, is the unity or matching of equipment standards. Secondly, it is the optimization of management standards. At present, global trade barriers still exist, and technical and standard barriers are a manifestation of trade barriers. Therefore, it is necessary to remove trade barriers. In addition, because the international standards of containers are not mandatory, the optimization of container standards should be guided more economically. It is necessary to encourage or compensate enterprises economically for implementing or changing standards. This work should have been carried out by the country in which the enterprise is located, but there is also a question of the feasibility of standard changes between countries. Therefore, the state also needs economic incentives and compensation, the most need for consultation between countries. It takes a lot of time. Some ship operators or railway transportation operators will also put forward suggestions on the standardization of the country from the long-term economic objectives. Once these suggestions put pressure on the national rights institutions, they will promote the state to optimize the standards economically. Therefore, in the final analysis, the enterprise is the first promoter of standard optimization. Only the power of market rules will make enterprises have a direct impetus to the work of standard optimization. The alliance of

enterprises in technical standards is the basis of standard optimization. In particular, the standard alliance of multinational enterprises is the most important.

4. Forecast and suggestion on the optimization of container standard in the future.

Because the optimization of container transportation standards has feasible obstacles, but also has its scientific driving force. Therefore, the author believes that the further optimization of container transport standards is a trend, but also a long-term process. This process is not only a game between multinational enterprises, but also a consultation and cooperation between governments. The optimization of standards should be led by the world's leading multinational enterprises.

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