Research on Cost Collaborative Control among Enterprises in Shipbuilding Industry Chain

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Abstract: Facing the fierce competition in the globalized market, the refinement of social division of labor, and the strengthening of specialization, the synergy effect proposed by German physicist Hermann Haken has been applied to the strong cooperation between enterprises. The division of labor between upstream and downstream enterprises is coming. Due to the impact of the new crown epidemic, the shipping industry has been hit hard. Although the domestic epidemic was under early control, the international community was faced with a complex and precarious situation. Ship orders were rapidly declining, ship owners were short of funds, and shipping was once suspended. In the face of the severe market environment and the increasingly fierce international competition, it is a general trend to strengthen cooperation among enterprises in the shipbuilding industry chain and gather together for warmth. Therefore, from the perspective of the shipbuilding industry chain, this article designs a model for the shipbuilding industry to implement cross-enterprise cost collaborative control, and discusses the implementation process of collaborative management, in order to provide a way for shipbuilding companies to carry out cross-enterprise cost collaborative control.

1. Introduction

Under the influence of the epidemic, the global economy continues to be sluggish, and the market downturn has caused competition among companies to become more intense. Therefore, in order to strengthen their competitiveness, companies have begun to seek the support of some partners, and “grouping for warmth” has become the norm. At the same time, the continuous development of technology and society has made the division of labor between enterprises and enterprises more refined, and the business capabilities of enterprises have become more specialized. Therefore, only when enterprises strengthen collaboration and dilute the boundaries of enterprises can they exert synergies and reduce Cost allows companies to win the competition and have their own place in the market. As a special kind of manufacturing industry, the shipbuilding industry involves a wide range of industries, a long industrial chain, a high degree of division of labor, a high degree of professionalization of enterprises, and the continuous decline of ship orders due to the impact of the epidemic. Enterprises in the shipbuilding industry chain must strengthen cooperation and form a synergy effect to reduce the cost of shipbuilding.

2. Model Design of Cross-Enterprise Cost Coordination

This chapter introduces the model of cross-enterprise cost coordination. With core enterprises as the leading factor and industrial Internet technology as the foundation, cost coordination is divided into three levels of value chain collaboration with companies in the value chain.

2.1 Core Companies Should Play a Leading Role

In the cross-enterprise cost synergy control system based on the industrial chain, a system model with core enterprises as the main and other enterprises on the side should be determined. The core enterprise, as the main body with the largest volume and the largest number of connections in an industrial chain, has the most resources, the greatest enjoyment of rights, and the most

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responsibilities in the cost-coordinated control system. Therefore, the core enterprise-based control system shows The control effect is the best. As a core enterprise, it should bear the following responsibilities and obligations: As the core enterprise with the largest volume and strength in the system, it should play an important role in the framework and rules of the system. Based on the most connections with upstream and downstream companies, the core companies have clearer business models and strengths in cooperation with most companies, and are more familiar with them, making it easier to design the system framework and rules; As the “boss” in the system, economic Strength and credibility must be the highest, and the industrial interconnection information platform required to build the system should be incumbent; As a leader in the system, he must also be responsible for penalties for violations in the system; Timely assess the market environment and target the market To adjust the system to deal with risks; When there is a risk in the system and members of the system have problems, the system and members must be actively rescued to maintain the continuous and effective operation of the system as much as possible.

2.2 Use Industrial Internet Technology

Compared with the data processing faced by the cost management of a single enterprise, the cross-enterprise cost coordination management and control system has more complicated management concepts and management methods, which requires more advanced technical means to support. As one of the main driving forces of management methods and behaviors, science and technology, the higher its degree of development, the wider the scope of management, and the more refined the management methods. Therefore, in the current era of big data based on cloud computing, the establishment of an industrial Internet platform can improve the cost management level of enterprises, and through cross-enterprise cost management, enterprises can form synergy effects and enhance their own competitiveness. In the shipbuilding industry, the complexity of the process and the huge amount of resources required require the processing of big data. For example, the analysis of a large amount of resource data can provide a mathematical basis for the reasonable and effective use of resources in the shipbuilding process and detailed cost control in the shipbuilding steps. However, only limited to data processing to improve its own cost management level still does not give full play to the full value of big data. In the production and operation activities of enterprises, the use of Internet technology will obtain a large amount of data, and only part of these data will often help enterprises to control their costs. The remaining data needs to be brought to the enterprise through the exchange of information between enterprises. value. Therefore, the industrial Internet platform between enterprises in the shipbuilding industry chain is not only a tool for enterprises to conduct data analysis and processing, but also a sharing platform for data exchange and information sharing between enterprises.

2.3 Three Levels of the Value Chain

As one of the four dimensions of the industrial chain, the value chain includes three levels: internal enterprise value chain, industry value chain, and competitor value chain; applied to the enterprise cost coordination control system between industrial chains, it can coordinate costs Divided into three levels: the enterprise's own value chain synergy, the cost synergy of the vertical value chain, and the cost synergy of the horizontal value chain.

3. Cross-Enterprise Cost Collaborative Management Implementation Process

This chapter mainly introduces the procedures that ship enterprises should pay attention to when implementing cross-cost collaborative management, including reaching a collaborative consensus, setting collaborative goals, evaluating collaborative behaviors, and risk emergency handling.

3.1 Reach a Collaborative Consensus

For companies in the industry chain to coordinate costs, they must first reach an ideological agreement. In the shipbuilding industry chain, from shipowners, shipbuilding companies, to suppliers, operators, to leasing service agencies, and even peers, all need to have a sense of

recognition for the concept of cost coordination. To form such a consensus, the easiest way is to make the participating companies really feel the existence of benefits, which requires a feasibility analysis of cost coordination. Through feasibility analysis, the risks and benefits of cost synergy are analyzed and forecasted, so that participating companies can truly feel the tangible benefits, which can have more stable benefits compared to “going alone”. Therefore, it can be said that feasibility analysis is the basis of cost coordination management and control.

3.2 Set Collaborative Goals

The overall goal of cost collaborative management is to reduce costs and achieve maximum profitability. However, due to different collaboration models, industries, and the roles played by various companies in the cost collaboration management system, each type, or even each company, should have its own clear cost collaboration goals. The synergy effect after these sub-goals are reached is the overall goal of cost synergy. Since there is a goal, it must be achieved, and the respective goals must be achieved in strict accordance with the cost coordination model. This requires cooperative enterprises to reach a contract, set their own rights and obligations, and clarify the harm and punishment caused by breach of contract, so as to achieve the protection of coordination.

3.3 Assess Collaborative Behavior

The market is always changing rapidly, and the complexity of the market environment requires cost synergy companies to evaluate, summarize and adjust cost synergy in a timely manner. Only in response to changes in the market, making adjustments in line with the laws of the market, so that the cost coordination conforms to the general direction of the market, can the entire system be reasonable and effective, and the collaborative cooperation between enterprises can be long-lasting. However, adjusting management behavior should not be a sharp turn. For large enterprises and core enterprises in the collaborative model, adjustment cannot be achieved overnight. At the same time of adjustment, how to maintain the stability of coordination and allow enterprises to have time to formulate new goals and policies has become particularly important. Therefore, in the implementation of cost coordination management between enterprises in the shipbuilding industry chain, the effectiveness of coordination is more to fine-tune the coordination goals through the evaluation of the effectiveness of the coordination management, so that the entire cost coordination management system can continuously adapt to changes The market can protect the interests of different participating companies, so as to avoid the occurrence of situations such as the decline of synergy efficiency and the collapse of the synergy system due to the rigidity of the mechanism.

3.4 Risk Emergency Treatment

Risks and benefits always coexist. Cross-enterprise cost synergy brings stable and win-win benefits, but also risks. These risks may be systemic risks in the market, crises caused by the unreasonable synergy model, or events caused by the company's own reasons. As a cost-cooperative enterprise that is both prosperous and costly, in the face of these unexpected risk events, the impact is often not limited to a single company. At this time, it is necessary for the cost coordination system to have a corresponding intervention mechanism that can help companies in difficulty tide over difficulties in a timely manner and avoid the spread of risks within the system.

4. Conclusion

Cross-enterprise cost coordination management is based on the formation of industrial chain and value chain. As a complex and dynamic ecosystem, the shipbuilding industry chain facilitates mutual communication, communication and collaboration among enterprises in the chain, which provides a new direction for the cost management strategy of enterprises, and the cost management objectives have also been extended from a single enterprise to the entire industry.

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