

Inter-organizational Cost Management Framework and Implementation Path of Product and Relation Dimensions under Accounting Information

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Abstract: Inter-organizational cost management is a cost management activity based on coordination and cooperation among different organizations. It is a research field of integration of value chain management, supply chain management, organizational theory, contract theory and cost management. It is one of the important development directions of modern management accounting. This paper analyses the main restraint mechanism and its functions of inter-organizational cost management, and explores the effective implementation path of inter-organizational cost management restraint mechanism. This paper puts forward the implementation framework of inter-organizational cost management based on accounting informationization, and considers that the restraint mechanism should be designed and implemented from the two dimensions of product and relationship. In view of the restraint mechanism of corporate governance structure selection, the restraint mechanism of control objects should be strengthened, and the design and implementation of the four-factor restraint mechanism of inter-organizational cost management should be improved.

1. Introduction

The practice of systematic inter-organizational cost management came into being and developed gradually in Japan. Drawing on the idea of value engineering and total quality management, we put forward the target cost management method. Target cost management requires manufacturers and suppliers to share cost and product improvement information at design and manufacturing stages, and to establish a trust relationship based on long-term cooperation among enterprises[1]. From the perspective of theoretical evolution, the early inter-organizational cost management research was mainly influenced by transaction cost economics, which studied the balanced transaction cost and its institutional arrangement between enterprises and outsourcing.

From the technical and methodological point of view, the research includes: relationship building, network structure and characteristics, product type, production process and so on[2]. These scholars' research on inter-organizational cost management is based on different application areas, but they have not analyzed the unified framework of inter-organizational cost management implementation. At present, domestic scholars' research on inter-organizational cost management is limited to the stage of introducing foreign research results, and there is no systematic research system. Moreover, few scholars study the inter-organizational cost management of chinese enterprises from the perspective of empirical analysis[3].

The system and method of cost management should be adapted to the social environment and constantly develop and change with the change of social environment. The formation of advanced manufacturing environment promotes the change and improvement of current cost management system and methods[4]. Inter-organizational cost management is a cost collaborative management across organizational boundaries. It is a structured and coordinated activity of supply chain enterprises, which reduces the total cost of the supply chain[5]. The role of cost management among organization is to help determine more effective ways of cooperation between organizations; to help enterprises and their suppliers and customers find new ways to design products, so that products adopt low-cost design; and to help enterprises and their suppliers find new ways to further reduce product costs in the manufacturing process.

2. Inter-organizational accounting informationization research

2.1. The necessity of sharing accounting information between organizations

In theory, accounting information sharing has a positive effect on the formulation, planning and control of goals between organizations[6]. Accounting information sharing is a specific corporate strategy that promotes cooperation among organizations and creates trust. In general, the goal of inter-organizational cost management is to achieve reduced collaboration costs, which are often not achievable by a single buyer and supplier. In order to manage the relationship between organizations, the exchange of sensitive accounting information and knowledge is an essential condition. The factors affecting the disclosure of accounting information are divided into exogenous environmental factors and endogenous enterprise exclusive elements[7]. Exogenous environmental factors include: competitive pressures, requirements for cost reduction, and economic development trends. As for the endogenous enterprise-specific elements, it includes the size of the enterprise, whether to adopt advanced cost accounting systems, corporate competition strategies, and commitment to cooperation.

2.2. Implementation and content of open accounting

The essence of open accounting is a general expression of the arrangement of accounting information sharing system, which includes the negotiation, negotiation and agreement reached by all parties on information disclosure[8]. In theory, public accounting can achieve cost information sharing, and sharing information in practice is difficult. Particularly, when there are many members of the network, there is a risk of information disclosure, which may even affect the survival of the original manufacturer. In practice, the OBA includes three dimensions that affect each other, the content of the data, the objectives of the data disclosure, and the conditions and motivations for the partner to disclose the information, as summarized in Table 1. These three aspects are interrelated. The goal of data disclosure affects the content of the data. The conditions for data sharing determine what type and scope of information the supplier is willing to share.

Table.1 Three dimensions of OBA

dimension	content
Content of accounting information disclosure	Type of data disclosure
	Degree of disclosure of cost information
	Form of cost information disclosure
Content of accounting information disclosure	Strategic planning support
	Decision making
	Cost planning and control
	Performance evaluation
	Product improvement and supply chain coordination
OBA implementation environment	Relationship feature
	Exchange process
	Production process characteristics

3. Implementation framework of inter-organizational cost management

The implementation framework of inter-organizational cost management is totally different from that of a single organization. Traditional cost management methods, such as standard cost system, are often limited in implementation at the inter-organizational level and cannot assist inter-organizational cost decision-making[9]. Compared with the traditional cost system, the advantages of the inter-organizational cost management system lie in: creating channels to facilitate the transfer of competitive pressure from different partners in the supply chain; providing support to the inter-organizational project team; modifying some specific parameters of products delivered along the supply chain to seek the lowest planning cost; identifying ways to make the cooperation

more effective in order to help members reduce the cost. Inter-organizational cost management includes the following characteristics: cost management, especially the use of a variety of cost technologies for supply chain cost management; upstream and downstream cooperation can intervene together[4]. There are many cost management methods in inter-organizational cost management practice, target cost management, continuous improvement of cost management, life-cycle cost management, value chain accounting and so on. These methods overlap with each other and are used in different stages of supply chain management.

From the dimension of relationship, the implementation of inter-organizational cost management depends on the construction and evolution of relationship. Asset specificity and cooperative contract are two important institutional guarantee mechanisms, while trust building and agile manufacturing are two important operational mechanisms[6]. From the production dimension, the implementation of inter-organizational cost management changes along the product life cycle. For example, target cost management is an effective cost management method, while continuous cost improvement is a cost management method in production process. Operating mechanisms based on production and relationship dimensions include functional price quality analysis, Collaborative cost management, value chain analysis and so on.

In the management of supply chain costs, Cooper and Slagmulder designed the supply chain product-relationship matrix, and according to this new definition of supply chain cost, Seuring added transaction costs to the product-relationship matrix to form different supply chain product-cost-relationship matrix, as shown in Figure 1. This matrix shows that cost management is no longer limited to the internal, but the scope of cost reduction is extended to the supply chain, that is, across the organizational boundaries, is an inter-organizational cost management. The addition of such inter-organizational transaction costs has created new opportunities for companies to optimize product costs and find more opportunities to reduce costs in product design, production and trading.

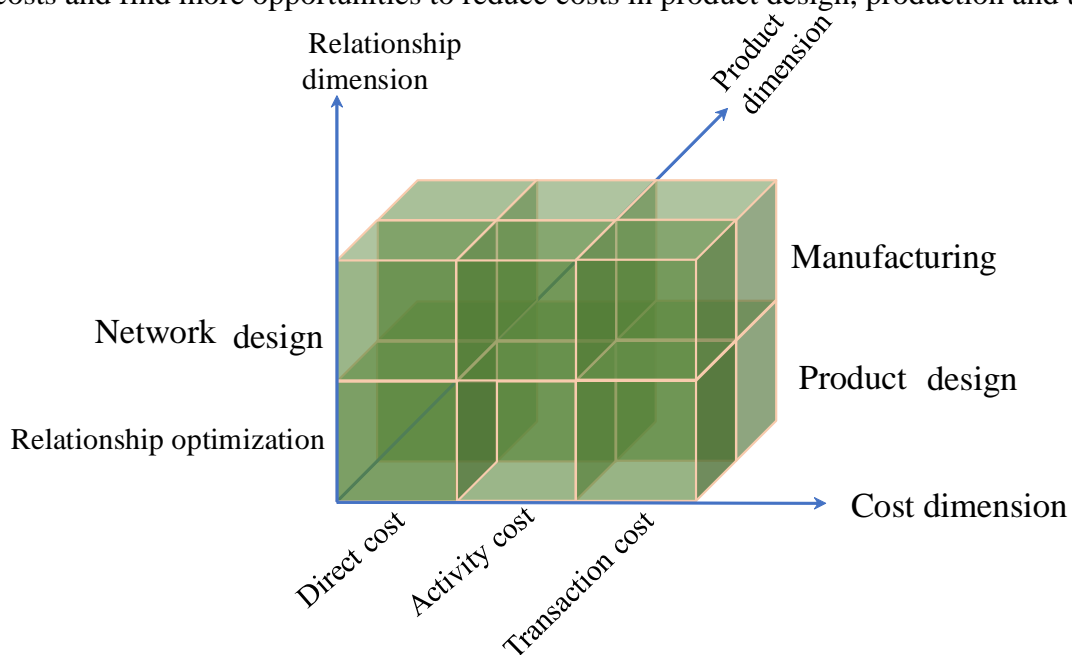


Figure.1 Matrix of supply chain products-cost-relation

4. Implementation Path of Inter-organizational Cost Management

4.1. Design and implementation of constraint mechanism based on product and relation dimensions

An effective cost management mechanism requires a constraint mechanism and a guarantee mechanism with two dimensions of relationship and product. The main purpose of the constraint mechanism is to convey the pressure of cost reduction[3]. The safeguard mechanism is designed to help companies find ways and means to reduce costs, such as improving technology, coordinating

design, and striving for production. The framework model for cross-organizational cost management is shown in Figure 2.

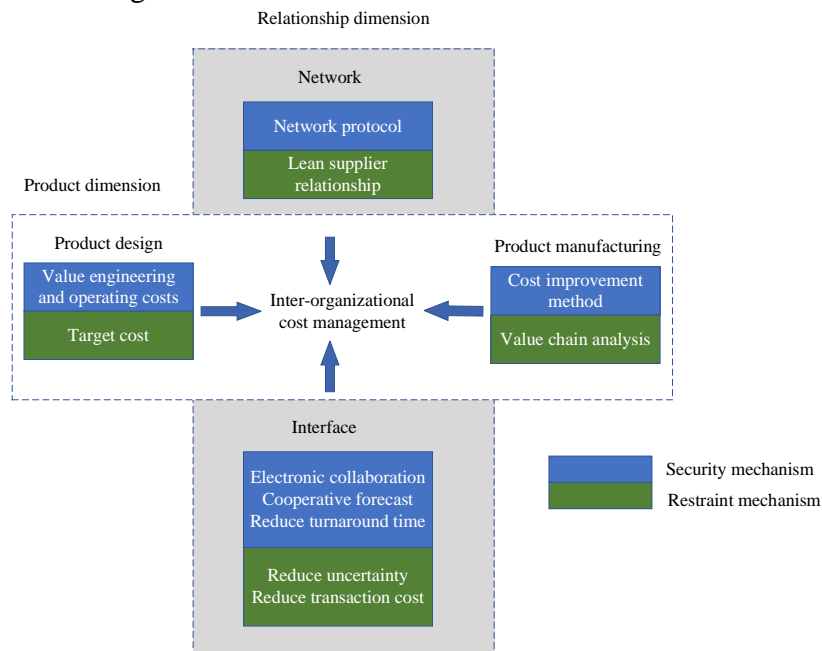


Figure. 2 Inter-organizational cost management framework model

Target costing constrains the process of cross-organizational cost management by setting the goal of reducing the cost of products and their components. Target cost method aims to determine the production cost and component cost of a product reasonably, so that it can produce a satisfactory profit level when it is sold at the expected market price in the life cycle of the product. In the process of cross-organizational cost management based on supply chain, target cost method expands the boundary of cost management, and transfers cost pressure to suppliers through component level target cost. When the target cost cannot be achieved, the purchaser will determine the target cost of products and components by starting functional value trade-off, concurrent cost management, cost investigation, and early involvement of suppliers in development. The traditional target cost method is only a method used in the internal cost management activities of enterprises.

The main constraint mechanism of cross-organizational cost management in product production stage is to improve cost method, which helps companies coordinate competitive pressure with engineers and suppliers to achieve the goal of reducing costs. The improvement of cost method is mainly realized through value chain analysis. Like the target cost method, the improved cost method is also a feedforward cost management method, which sets the target of product cost reduction through the expected cost reduction standard. Improving the implementation of cost method keeps the pressure of cost reduction throughout the product life cycle. In the process of cross-organizational cost management based on supply chain, the improved cost method expands the boundaries of cost management, requiring all network members in the supply chain to jointly implement the improved cost method and tap the potential of cost reduction through value chain analysis, which involves the cross-organizational application of the improved cost method. To improve the cross-organizational application of cost method, it is necessary to tap all opportunities for cost reduction through cost information sharing and cooperation mechanism, so that the whole supply chain can participate in cost management.

4.2. Constraint mechanism of cross-organizational cost management in relational dimension

The operation of relational dimension mainly includes two aspects: network and interface, so the constraint mechanism of cross-organizational cost management of relational dimension mainly includes two aspects: network and interface. Interface constraint mechanism mainly deals with the way suppliers transfer products and services, and its main constraint mechanism is to reduce uncertainty and transaction costs. Open book accounting can meet the organization's demand for

cost information in time by sharing cost information, which is conducive to increasing trust among organizations in the supply chain. Therefore, book-opening accounting can be used as a major constraint mechanism of interface constraints. Organizations can implement different book-opening strategies according to the characteristics of supplier relationships.

Inter-organizational cost management means that every company in the supply chain network is responsible for the value-added part of the total product. Lean supplier network as a high-quality, low-cost products to meet customer needs. In order to make full use of cross-organizational cost management, all companies in the supply chain network have to form lean supplier relationship. That is to say, one of the prerequisites for successful implementation of cross-organizational cost management is that suppliers and manufacturers are interdependent. Only in the case of interdependent cross-organizational alliances can suppliers and manufacturers extend the scope of cost management to the embedded dependency relationship between the two sides. In order to protect the rights and obligations of the members of the supply chain network, they need to sign network agreements and contract the rights and obligations, so as to ensure that the members fulfill their obligations and enjoy their rights.

5. Conclusion

Inter-organizational cost management is a cost collaborative management system across enterprise boundaries. Its goal is to reduce the cost of the entire supply chain through collaborative management. Based on product dimension, target cost method and continuous improvement method are applied to different production stages. Based on the relationship dimension, this paper analyses three methods of organizational cost management, including functional value quality analysis, inter-organizational cost survey and collaborative cost management. These methods are suitable for different relationship scenarios. Cross-organizational cost management constraint mechanism can ensure the transmission of cost pressure, reduce appropriate concerns, achieve efficient regulation of demand, prevent relationship rent from being occupied and reduce cost information constraints. It is of great significance to effectively implement cross-organizational cost management and improve the efficiency of cross-organizational cost management.

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