

Research on Cost Strategies in Railway Construction Business Based on Value Chain Analysis

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Abstract

Based on the competitive advantage and value chain, this paper analyzes the key link of value chain construction and value creation of railway construction enterprises, after this, we discussed the effective approaches and methods for railway construction enterprises to carry out cost strategy and promote the market development.

Key word: Railway construction enterprises; Value chain; Cost strategies

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INTRODUCTION

Although the investment in infrastructure in China has made a steady growth in recent years, the cost of railway engineering tends to be close to the cost in average, so, the average profit margin profit is low. High cost and low profits has been a realistic problem that the present construction enterprises have to consider. In such a competitive environment, railway construction enterprises must change their traditional business views and adopt modern management theory to cultivate enterprises' competition advantages from a strategic height. In nowadays cost strategy management model that taking the value chain analysis as the main content is used by more and more enterprises. This paper is based on value chain analysis on railway construction enterprises to study and discuss the cost leading strategy for that they can win

competition advantages by means of low cost and get out of predicament, improve their economic benefits and win competitions in the market.

1. THE THEORIES OF VALUE CHAINS AND COMPETITION STRATEGIES

1.1 Value Chains and Competition Strategies

In 1985, Porter present the concept of value chain for the first time in his book, "Competition Advantages". He holds that value is created in a series of activities, and the organic links between these activities form the industry value chain. Every activity that can create value is called a value activity in a value chain. The value chain of an enterprise and each value activity do reflect its history, strategies, the way its carry out the strategies and the economic impact of these activities. Though enterprises of a single industrial have a similar value chain, it's often different between competitive enterprises. Every single competition strategy is created for value that surpasses its cost and the difference between value chains of competitive enterprises is a key source of competition strategies.

1.2 Value Chains and Cost Strategies

Cost management accounting melting together with ideology of enterprises' strategy management is to meet the need of strategy management, which forms the theory of Strategy Cost Management. The most outstanding character of this theory is that when carrying out cost management, we pay close attention to an enterprise's competitive position in the market and make the enterprise adapt to a continuously varying external environment effectively with the help of cost management, therefore, strategic positioning, value chain analysis and cost cause analysis make up of the heart of the ideology. Ideology of a value chain suggested that internal corporate can be also

divided into several value chain units. Each part can not only create value but also consume resources. Whether one single value chain unit can create value crucially depends on whether it provides what the following units need, whether it lowers the following units' cost and whether it can improve the following units' quality. The connections in a value chain are important factors in lowering cost of each value chain unit and ultimate cost, and the innovation of the components of value chains is the source of an enterprise's competition advantages. Enterprises should adopt these two strategies: coordination and optimization, to improve efficiency and lower cost. The way of value chain analysis provides a new research idea for enterprises' strategy cost management.

1.3 The Rational of Value Chain Analysis

The so-called value chain analysis is to achieve the whole company's strategy goal and lower cost constantly by analyzing and estimating internal corporate and related activities between internal and external. Value activities of enterprises' each part of each phase can make a contribution to value of the ultimate products, and every value activity can be a source of profits of an enterprise and it's also where the competition advantages stays. It can be concluded from value chain analysis that the value that enterprises create actually is due to some specific value activities on value chains and these operational activities which really create value are strategy links of a value chain. An enterprise's advantages in competition, especially continuous advantages, come from advantages some specific strategy value link on value chains. If we can handle these key links, we can control the whole value chain. So introducing value chain as a basic tool for the analysis actually is to divide an enterprise activity into strategically related value activities. Enterprises win competition advantages by means of being more economical or developing and carrying out these strategically important value activities better.

2. VALUE CHAIN ANALYSIS OF RAILWAY CONSTRUCTION ENTERPRISES

Railway construction enterprises are different from the usual production and operation enterprises while the production object of which is the construction project, the product delivered is the construction project, and the activities of the enterprises regard the project as starting point, center and standard. Production and operation process of an enterprise can be simply summarized like this: Project trading market formed by need of business owners or users-Project contract of construction enterprises-Project construction-Project delivery and service-Repeat the above process. According to railway construction enterprises' characteristic, we present value chain of railway construction enterprises, as the following figure shows.

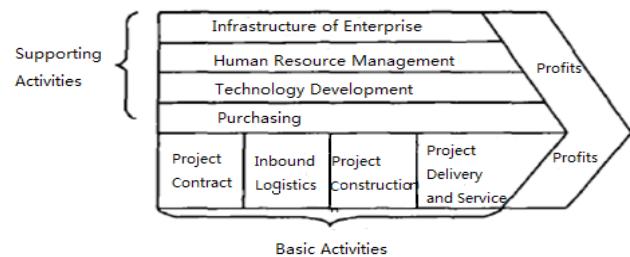


Figure 1
Structure of Railway Construction Enterprises' Value Chain

2.1 Project Contract

For railway construction enterprises, they must constantly gain projects so that the main chain of a company's production and operation will not be disrupted. Project Contract is not only the starting point of railway construction enterprises' production and operation but also is closely tied to project market, project construction, product delivery and service and so on via rules in statutory contract. This requires enterprises know the need of business owners and users well. They must not only perform a comprehensive analysis of and effectively utilize the project market's all kinds of information to know their competitors but also perform a comprehensive analysis of the situation of enterprises themselves and available resources in the market to come up with a viable programmers project contract is a strategy link of value chain for medium to large-sized railway construction enterprises.

2.2 Inbound Logistics

It is about storage and transportation of related raw materials in project construction, which is similar to what M.E.Porter describes. The difference is that while project construction is always conducted at a construction site and its production object is the project that has the one-off characteristic which makes stores less stable. Therefore this activity and purchasing are often carried simultaneously and enterprise resources and market resources should be combined with each other effectively to lower cost.

2.3 Project Construction

Project construction is a phase to produce real cost. In this activity, we would use advanced construction technology and techniques to reasonably use internal and external resources of an enterprise, scientifically organize, lower cost and gain profits to the limit. It's also a strategy link of railway construction enterprises' value chains.

2.4 Project Delivery and Service

It's about the project's completion acceptance and delivery with meeting the legal requirements. Good completion delivery and after service can play brand effect and win some recognition for companies, which benefits the work of project contract in the future.

2.5 Purchasing

As projects are different, each project needs different materials. What is more, a construction project is not task produce and raw materials and devices have many kinds and a large number that demands enterprises make use of both the advantages they have and market resources so that they make the best purchasing plan and lower purchasing cost.

2.6 Technology Development

Adopting their own or learning other enterprises' advanced construction technology and procedure is one of the most effective methods to achieve high quality projects and cost advantages.

2.7 Human Resources Management

For railway construction enterprises, making reasonable staffing structure, developing human resources and improving the quality of personnel according to the characteristic of project construction are effective ways to lower construction cost.

2.8 Infrastructure of Enterprise

Railway construction enterprises have great dependencies on internal and external information and market resources so when enterprises work out policy on basic management, financial plan, development strategies, quality assurance and so on, they shall consider not only internal resources but also market resources that are available. Only in this way, can they integrate effective information and resources together.

According to the above characteristics of railway construction enterprises and value chain analysis, strategy links or core competence of construction enterprises lies in the two links, project contract and project construction and when they seize them, they seize the point and enterprises' sources of production and operation procedure and profits are assured. This requires them make full use of internal and external resources to enhance and cultivate those two links.

3. IMPLEMENTATION APPROACHES OF RAILWAY CONSTRUCTION ENTERPRISES' COST LEADING STRATEGIES

Under the premise of determining the factors that affecting business cost, we choose value activities that take up bigger proportion of the cost to find out cost driver, Gaining cost advantages by changing the factors that affect them is an implementation approach of cost strategies. For those enterprises, we mainly study the related links that affect value activities, especially the phases of project contract and project construction to perform an analysis of implementation approaches of cost leading strategies:

3.1 The Link of Project Contract

3.1.1 Making Good Cost Programs of Projects

Cost programs are preparatory activities of cost management before project implementation and working foundations of project management system. Cost programs should determine cost programs of each month and each quarter and total project cost programs to work out break-even point and target profits as the goal of controlling production cost in construction process according to configuration of construction organization planning and essential productive factors and so on and doing as what the construction schedule planning shows.

3.1.2 Doing Cost Management Well

According to cost programs, we work out corresponding cost assessment system that assess responsible department, related department, and responsible personnel, related personnel of cost management and construction teams and decide whether to punish or reward and whether to appoint or dismiss based on the results to show the reward-based principle.

3.2 The Link of Project Implementation

3.2.1 Making Advanced Workable Construction Scheme

Enterprises should prepare before the project is started and choose the advanced construction scheme. When the construction scheme is different, the time limit is different and machines and tools the construction need are also different. Therefore, optimization of construction scheme is the chief way for construction business to lower construction cost. Construction scheme must be based on contract duration and related requirements and take the factors of project's scale, properties, complexity, site and so on into consideration. They will draw up tech technology organization measure plan at the same time, included in construction organization planning. The work of Engineers, nipple chaser and field controllers should be clearly defined to form the Value Chain of carrying out technology organization measures.

3.2.2 Signing Appropriate Subcontract and Material Supply Contract

Subcontract and material supply contract should be signed via the method of carrying out a public opening tender. Related personnel of organization management, engineering, materials and finance and the project manager together consult with subcontractor on contract price and contract terms and sign the formal subcontract and material contract. The work of tendering should follow the principles of publicity, equity and righteousness, tender document must be sealed, evaluation of the bid must be taken part in by all the members of leading group for the tender and the tender must have layers of examination and approval procedures. Also, the archives of subcontractor and material supplier should be set up for choosing the most appropriate subcontractor and material supplier so that they can control the outlay.

3.2.3 Strengthening Construction Process Control

In the process of project construction, they should be in strict accordance with cost programs to implement and control, including the control of the means of production, manpower consumption, field control expenses and so on.

3.2.4 Strengthening Construction Field Control

Strengthening construction field control is to lower field control expenses. Construction works have long duration of production that it is often several months at least and three to five years at most and its cost on temporary facilities is much. Usually they should follow the economically affordable principle and also they should be temporary buildings that are easy to relocate, which are better to be finished products or semi-finished products that can be recycled. For the management of field expenses, they should value the streamlining of the staff and the management of engineering programs. A project always can't meet the schedule because of the limit of time and conditions in concrete implementation, which requires reasonable dispatch and a gradual approach.

3.3 The Link of Purchasing

Strengthening management of the purchasing link is to lower material cost. In project construction, material cost makes up of the biggest part of the whole project cost and it usually takes up some 70 percent and also it has a great deal of saving potential. Therefore, material cost's saving is also very important for lower project cost.

3.4 The Link of Inbound Logistics

It's mainly about issuance of materials on a norm basis, reasonable organization of material in and out field and casting material reasonably, lowering attrition rate of materials and so on to control cost effectively.

3.5 The Link of Technology Development

In this segment, the point is to strengthen quality cost control. Department of engineering technology has to adopt advanced techniques, control quality strictly and avoid the situation of reworking.

3.6 The Link of Project Delivery and Service

They would strengthen analysis and summary after the event, have the legal authority when facing a claim and finish final accounts in time to reach the goal of cost management.

CONCLUSION

Summing up the above, increasing the analysis of the railway construction enterprises' value chain and lowering project cost are not only the need of market competition but also the need of railway construction enterprises' strategy development. Only if we step up efforts in cost management and control of railway construction enterprises and implement the cost strategy management, can the enterprises gain competition advantages and get into a long-term development.

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