

A Review of Quality Chain Synergy Performance

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Abstract: Quality is the life of an enterprise. In the current context of economic globalization, the competitive environment is becoming more and more complex. All links in production are connected to form a chain, in order to achieve high-quality objectives, enterprises must abandon the idea of “Good for itself” and improve their coordination ability. Therefore, the quality chain synergy performance evaluation has gradually become a new research direction in the field of quality management. On the basis of literature review, this study first defines the concept of synergy performance of quality chain, and then analyzes the research achievements of domestic and foreign scholars. Secondly, it analyzes the evaluation process of synergy performance of quality chain, and divides seven main steps; thirdly, it analyzes the evaluation dimension of synergy performance of quality chain, and evaluates it from two dimensions: quality result and synergy capability; finally, the quality evaluation methods are reviewed.

1. Introduction

On the study of quality chain synergy management, scholars at home and abroad focus on measuring and evaluating quality chain combined degree or quality chain synergy performance. Quality chain synergy performance can reflect the combined effect of every organization in the quality chain and then deduce the obstacles and problems of cooperation among node enterprises. Therefore, the study on synergy performance of quality chain is an irresistible trend.

2. The connotation of Quality Chain Synergy Performance

Although people pay more and more attention to the quality chain's synergy performance, the research results are scarce. This study reviews the connotation of joint performance evaluation of quality chain step by step from the most basic version.

Performance refers to representing the degree of excellence and integrity of using the existing human and financial resources to complete the set goal under certain limited conditions [1-3]. The combination of performance expansion and quality management produces quality performance, which is used to measure the level of quality of products or services obtained by enterprises in a

complex and changeable environment with the least input. However, with the progress of The Times, the contemporary competition is no longer the competition of service products between individual enterprises, but the competition between the whole supply chain of the industrial group involved in the service or product. Relevant scholars have also conducted a study on it. The evaluation object is no longer limited to a particular unit but is analyzed separately from the leading enterprise's internal and external environment; the two critical points of the Cooperation Process and cooperation result are measured [4,5]. On this basis, the above understanding is extended to the field of quality chain collaborative management. The connotation of quality chain synergy performance evaluation is to take the needs of core enterprises as the center under the changeable collaborative environment, taking the node enterprises in the quality chain as the object; this study uses the scientific and objective method to evaluate the useful utilization degree and results of the resources, such as funds, information data, etc., then the evaluation results are analyzed to find out the main influencing factors of the process.

3. Quality Chain Synergy Performance Evaluation Process

The performance evaluation process can be generally divided into four steps. First, the expected performance goals to be achieved are determined. Secondly, the index system is constructed according to the requirements and principles of enterprises. Thirdly, the implementation process of performance evaluation is documented in writing. Finally, the performance evaluation is carried out, and the evaluation results are studied and analyzed. [6] Simultaneously, based on the related research results and theories of quality chain synergy management, the performance evaluation of quality chain synergy is not to evaluate a single enterprise but to evaluate the whole quality chain [4,5]. Above, the combination of generalized performance evaluation and quality chain management results in the quality chain collaborative performance evaluation process: (Figure 1)

4. Construct Dimension of Collaborative Performance in Quality Chain

The general background of enterprise development is continuously changing, and the connotation of keeping pace with the times and quality is also continually filling; the evaluation level of quality performance also extends from the traditional single level of product and service quality to include customers, employees, and other stakeholders [7-9]. Although the level is enriched continuously, the quality performance evaluation is still only research and analysis of the result dimension. With the passage of time and the deepening of research, scholars believe that quality management in the traditional closed model has disadvantages that cannot be ignored and cannot adapt to the fierce competition in modern times. Quality management should be viewed from a holistic perspective. The ultimate goal of quality chain synergy management is to produce products and services that meet customer needs and then promote corporate competitiveness. Combining the relevant research foundation of quality performance, the evaluation of the final output results of core enterprises is a crucial dimension of the assessment of quality chain collaborative performance. Still, it is not the only critical dimension. After investigation, relevant scholars have proved that collaborative ability plays a decisive role in improving synergy performance. Therefore, when conducting performance evaluation, synergy management ability is also a critical dimension that cannot be ignored [10-15]. On this basis, combined with the quality chain and its performance-related theoretical research, scholars from these two dimensions, from different levels to expand its investigation, the results are shown in Figure 2.

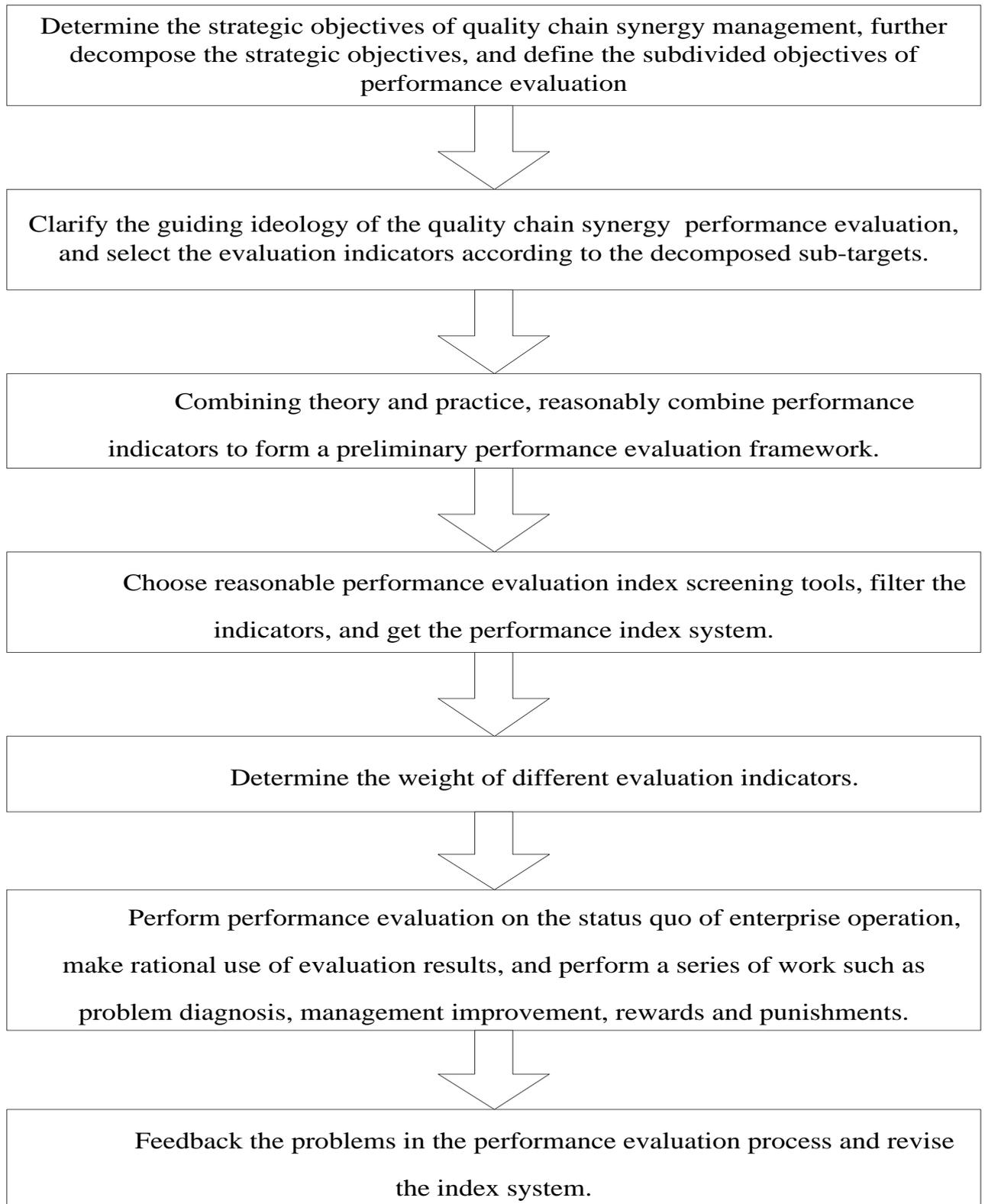


Figure 1: Quality chain synergy performance evaluation process.

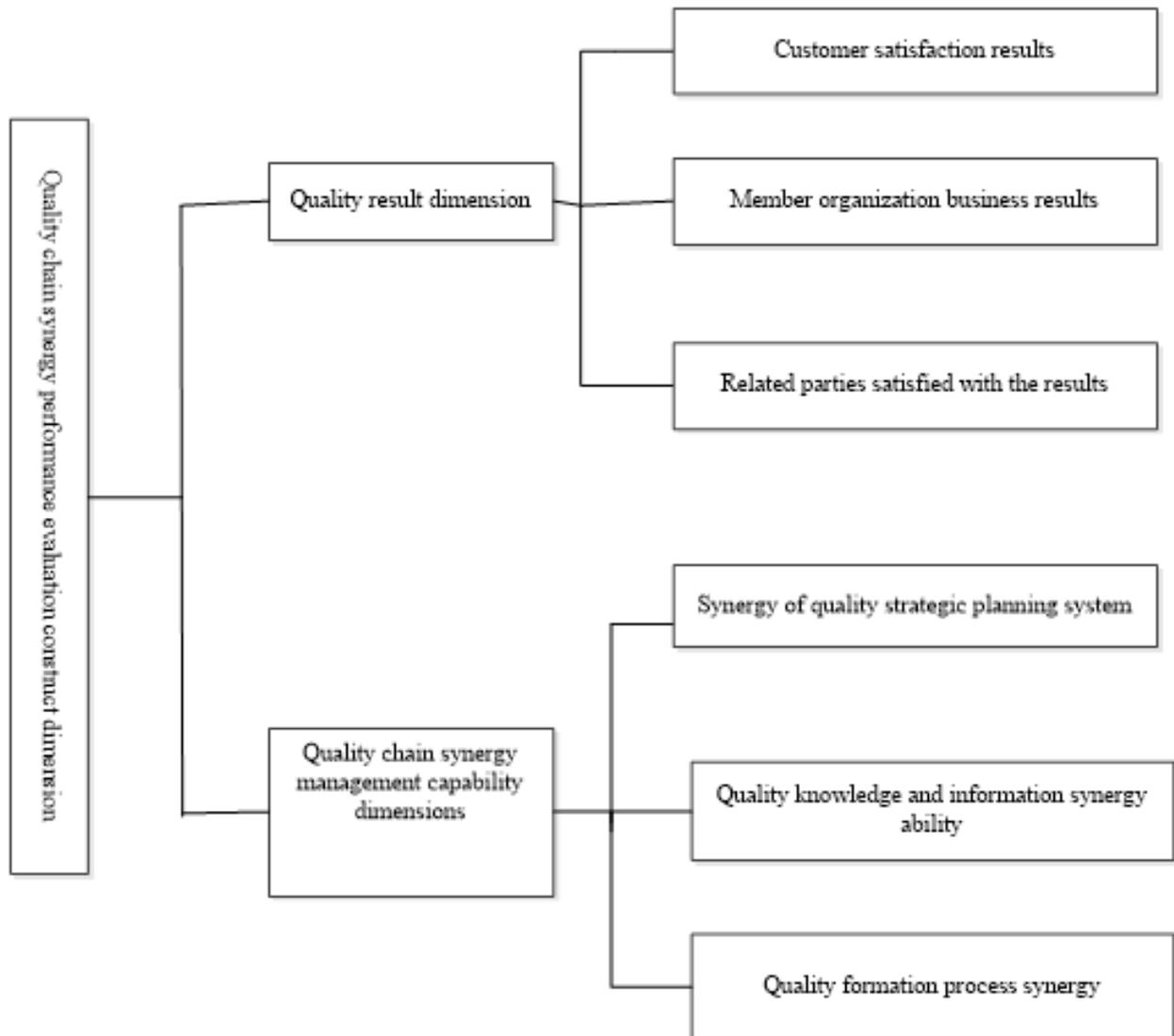


Figure 2: Constructive dimensions of quality chain synergy performance evaluation.

5. Quality Chain Synergy Performance Evaluation Method

When evaluating the quality chain synergy performance, scientific and reasonable evaluation methods are required. Scholars Yu Lei and Li Boyang et al. used the data envelopment method (DEA model) and network data envelopment method to evaluate the synergy performance of quality chain in related industries [16,17]. Jia Ruiping combined DEA with grey relational analysis to evaluate and analyze the synergy performance of the quality chain [9]. On this basis, Shan Laiyuan, Zhang Renlong et al. evaluated the performance using the improved data envelopment analysis [18-21]. Wang Mingyue et al. used the entropy method AHP analysis method to measure synergy degree [22]. Qu Fuqiang et al. evaluated synergy performance by combining ANP and fuzzy comprehensive evaluation method [23].

6. Conclusion

For Enterprises, establishing a scientific and reasonable quality chain performance evaluation system is the key to the enterprise is complex and changeable competitive environment. Therefore, this paper has carried on the related basic research to the quality chain collaborative performance, has defined the concept, has carried on the study to the appraisal dimension, the flow, and the appraisal method, has laid the foundation for the future research.

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