

Suppliers Development Model for Supply Chain Sustainability: A Case Study

Mohsen Sheikh Sajadieh*

Industrial Engineering Department, Amirkabir University of Technology, Tehran, Iran,
sajadieh@aut.ac.ir

Mahsa Bahmani Tabrizi

Industrial Engineering Department, Amirkabir University of Technology, Tehran, Iran,
mahsa_bahmani_tabrizy@yahoo.com

Purpose: Long-term interaction with supplies in supply chains has nowadays become a key activity in organizations, and the companies attempt to improve their capabilities by using it. Due to the limitations of capable suppliers, ongoing technological developments, and the market's new requirements, it is necessary to develop the shortlist of each organization's suppliers, which is both time-consuming and costly. Thus, the development of suppliers' competitive capabilities is a strategy for creating shared benefits for all members. But, what is the correct position of the suppliers' development? What is its preface?

This research aims to design a model for the development of the suppliers of a contractual holding company within the domain of engineering and design, production, construction, erection, and commissioning to establish sustainability in the supply chain. Therefore, by creating a model, through giving prominence to appropriate relations with each supplier, the improvement of the suppliers through the combination of qualitative and decision support models will be provided, so that all quantitative and qualitative criteria of purchase management are taken into consideration.

Design/methodology/approach

In this research, a process model and software for suppliers' development in the contraction field is provided employing qualitative patterns and decision support models for the sustainability of the supply chain. For this, along with the growth factors, requirements of customers, and beneficiaries in environmental; social, and economic dimensions are included. Therefore, methods such as investment, performance enhancement of key purposes, and training are used. To evaluate the suggested model, ten suppliers, qualifying the requirements of the conglomerate contractual company, are recognized and analyzed for seven months in cognitive, development-monitoring, and executive sections. The results obtained confirm the validity of the model and software in expert panels.

Findings

The main findings of this research are the design of a comprehensive process model and software within a sustainable development framework. In the recent model, contrary to the previous research, all different working areas of the suppliers for all contractual companies with the various buyer and seller relations have been considered inclusively. The output of this model is the plan for the integrated development and improvement of each supplier.

* Corresponding author

The tracking of the improvements gained for different areas shows that, out of 39.29 percent total improvement, 15.99 percent is related to 40 percent of the suppliers with strategic unity. The remaining 23.30 percent is related to other suppliers.

Research limitations/implications

The challenges are motivating suppliers' participation, the permission of client involvement into details, and delay of some development plans. For further research, it is suggested that the chapters of recognition instruments and the gap analysis be revised and, if necessary, the empty module of the model be completed. For the software section, the system can be developed integrally online.

Practical implications

Through reviewing suppliers, the development of suppliers was classified in the form of investment conglomerate company through consultation and training, persuasion, promotion of performance goals, the necessity to execute standards, and supervising their execution and legal obligations and determination of the strategies and key objectives. The other development tool was provided appropriate for any action suggested. The main barriers of improvement actions to be implemented by suppliers can be summarized as the lack of organization's senior managers' support due to the informal execution of the project within a short time (seven months), and more than one-year time needed for improvement actions (i.e., the results of the actions were not achieved in monitoring section).

Social implications

As the development and implementation of the model are related to the sustainable supply chain, the social responsibility in each supplier is also promoted through the assessment of the indicators. For this purpose, various methods including rules implementations, following national and international standards, training and investment are used.

Originality/value

The novelty of this research is the development and simultaneous implementation of the three phases (assessment, development, and monitoring) in an integrated sustainable supplier development model.

Keywords

Supplier development, Supplier evaluation, Supply Chain Sustainability