Chapter 12

Supplier Selection Criterion for SSCM in Indian Thermal Power Plant: Criteria Responsible for the Selection of Raw Material Provider in a Thermal Power Plant

Suchismita Satapathy
https://orcid.org/0000-0002-4805-1793
KIIIT University, India

ABSTRACT

All companies are dependent on their raw material providers. The same applies in the case of thermal power plants. The major raw material for a thermal power plant is the coal. There are a lot of companies which in turn provide this coal to the thermal power plant. Some of these companies are international; some are local, whereas the others are localized. The thermal power plants look into all the aspects of the coal providing company, before settling down for a deal. Some people are specifically assigned to the task of managing the supply chain. The main motive is to optimize the whole process and achieve higher efficiency. There are a lot of things which a thermal power plant looks into before finalizing a deal, such as the price, quality of goods, etc. Thus, it is very important for the raw material providers to understand each and every aspect of the demands of the thermal power plant. A combination of three methods—Delphi, SWARA, and modified SWARA—has been applied to a list of factors, which has later been ranked according to the weight and other relevant calculations.

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INTRODUCTION

The electricity sector in India is growing very quickly, exhibiting great enthusiasm in generation of electricity. So to fulfill demand, India continues to invest in increasing electricity capacity fired by coal. As coal has proactive stance on climate action, so Clean energy, clean technology is the first requirement for all industries and coal power plants are mostly focused due to environmental degradation, logistics related emissions, waste production, non-disposability of by products and wastes and stressful work environment for its employees (Hussain, 2011). The awareness against the Environmental pollution and clean energy is increasing all over the world. As the thermal power sector is blamed for creating Environmental pollution, so they are more focused on sustainability issues and subsequently trying to develop a sustainable supply chain strategy to carry out their operations while respecting social as well as environmental issues. Sustainable supply chain management (SSCM) practices in Thermal power plant of India mostly dependent on three pillars (Social factor, Environmental factor, Economic factor).

The major raw material for a thermal power plant is coal. It is a fossil fuel and is depleting rapidly. However, there is a huge concern among the common people regarding the use of coal. People are aware of the harmful effects of burning coal and its contribution towards global warming. In order to reduce the number of pollutants released, the government has specified a lot of rules and regulation under which a company must operate. The government has also stated various companies to adopt a sustainable business model so that all the available resources stored in the earth for long run.

SSCM has a greener aspect to it as well as a social aspect. The greener or environmental aspect looks to minimize the consequence of various supply chain related issues upon the environment. On the other hand, the social aspect of SSCM ensures ethical treatment and proper working conditions for all the personnel involved with the organization, including the suppliers. The SSCM also has a third aspect which looks after the economic upliftment of the local raw material providers. SSCM has been adopted in a wide range of companies. Thermal Power industries are no exception to it. There is a wide array of factors that influence SSCM. These factors can be majorly classified as

1. Factors promoting SSCM
2. Factors hindering SSCM

The first set of factor is those which promote the growth, spread and adoption of SSCM. The second set of criteria is those which hinder the growth of SSCM. There has been a lot of research involving and detailed structural study of these factors.
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