Chapter 13

An Analysis on Sustainable Supply Chain Management in Thermal Power Plants:
Sustainable Supply Chain Management for Customer Satisfaction in the Thermal Power Sector

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ABSTRACT

Research on sustainable supply chain management (SSCM) has been garnering interest because of its multi-approach in nature. SSCM has emerged as an essential method for organizations to develop and to enhance their competitive strategy through innovative ways in order to satisfy customer basic needs. It facilitates competitive advantage, faster flow of information, material, less response time, speeding up delivery action, better relation and coordination among partners, easy way of information sharing, and increasing order fulfilment rate. Implementing SSCM in organizations like thermal power plants has other benefits such as increasing attention about environmental performance intending the integration of social as well as economic performance. In this chapter, the artificial neural network (ANN) method is used to measure the customer satisfaction after implementing SSCM by thermal power industries.

DOI: 10.4018/978-1-5225-8157-4.ch013

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INTRODUCTION

Supply Chain Management is a component of Operations Management because of many issues of operations management are related with supply chain management. Supply chain management and operations management both are indispensable for success of a business. Supply chain management is an external activity concerned with flow of resources, information and coordination among suppliers to optimise the entire process from supply to delivery of value along a supply chain. But operations management is related with the actions taken inside the factory to carry out production process by controlling and monitoring every facet of the business organisation. A tutorial is explored on the current research of operations management of logistics and supply chain and clarifies the conception of logistics and supply chain management with its different issues from different research angles (Li, 2014). Different ways are proposed and analysed to accomplish the validity and testing the models for operations and supply chain management through exploratory research and developed theory to minimize the gap between the research study and the real world application (Singhal et al, 2012). Also various ways are proposed and analysed to accomplish the opportunities for radical innovations in operations and supply chain management (O&SCM): pursuing all phases of science and multiple perspectives (Singhal et al, 2012). A framework is proposed and demonstrated for a content analytic approach to measuring theoretical constructs in operations and supply chain management (Tanpong, 2011). It is concluded with a reflection on the career development of operation and supply chain management scholars, their potential role as academics or practitioners, in the development of O & SCM theory and practice (Coughlan et al, 2016).

Coal is the world’s most profuse and widely disseminated fossil fuel and the greatest single wellspring of vitality for power generation and its offer is growing gradually. Coal fired power plants also known as thermal power plants, give more than 42% of worldwide power generation, and is probably going to remain a key part of the fuel mix for power generation to take care of power demand, particularly the growing interest in developing nations like India. Coal holds for a wide range of coal assessed to be around 990 billion tons, enough for a long time at current utilization. Coal assumes a fundamental part especially for power generation, yet we have to utilize it productively and diminish its ecological impact. In the meantime, these plants represent more than 28% of worldwide carbon dioxide (C0₂) emissions. Conveying clarity to the performance measurement and C0₂ emissions is a criterion to the more economical utilization of coal at power plants. The productivity of
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