

Chapter 23

Analyzing Sustainable Food Supply Chain Management Challenges in India

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ABSTRACT

The demand of food is increasing day by day, innovative agricultural practices and sustainable food supply chain management (SFSCM) has gained an emergent importance. Food industries across the globe mainly focus on the manufacturing of their own products to achieve sustainability. The importance of sustainable food supply chain management is to overcome the wastage in food manufacturing industries. In the present research, we identified eleven challenges in the SFSCM on the basis of literature review and expert opinion. The approach is an integration of fuzzy with DEMATEL which can be used for dividing the challenges into cause and effect group. Fuzzy DEMATEL method has continuously been used for the analysis of challenges and is the novel approach for decision making. Thus, this method can be implemented in many fields including automobiles, food industries, retail market etc. From the fuzzy DEMATEL results, it can be confirmed that the Safety and Security is one of the most influencing challenge and has the strongest association with other challenges.

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INTRODUCTION

Since from the past decades, there is a development of green and sustainable supply chain management methods for reducing the environmental concerns and issues. Also the food production and consumption processes have been changed to overcome some of the major problems of the environment (Genovese and Acquaye, 2017). According to the report of India brand equity foundation (IBEF), 2017, the world food trade is rising day-by-day with the increase in the establishment of new food industries. The Indian food industries have evolved as a high income and growth area because of its enormous potential for value addition, especially in food processing industries. The current value of food industries is US\$ 39.71 billion and it will be increase at a Compounded Annual Growth Rate (CAGR) of 11% to US\$ 65.4 billion by 2018. The Government of India has constantly making efforts for the development of food processing industries which will account for approximately 32% of the country's total food market. The Ministry of Food Processing Industries (MOFPI) has already taken and is still taking many initiatives to increase investments in this business. Many proposals had been approved for foreign collaborations, joint ventures and export oriented units and in industrial licenses. Indian food processing industry is one of the largest industries accounting for 32% of the country's total food market and it secures fifth rank among other industries. The food industry accounts for around 14% of GDP (Gross Domestic Product), 13% of exports and 6% of total industrial investment. In context with organic food market, India is projected to increase its production by three times in next 3-4 years. The current value of Indian gourmet food market is US\$ 1.3 billion which is continuously growing at a CAGR (Compound Annual Growth Rate) of 20%. Idea of fuzzy approach was used by (Bellman and Zadeh, 1970) in decision making theory. Fuzzy set theory is very useful for removing the uncertainty in the supply chain (Lee et al., 2004). According to the literature or researchers point of view it is clearly mentioned that fuzzy set theory is capable of managing the supply chain inventory (Petrovic et al., 1998, 2001). In the current problem Fuzzy DEMATEL is used to remove the biasness in the human judgments. Fuzzy approach is used for the better implementation of SFSCM in Indian food industry. To manage the increased demand of food throughout the world, SFSCM is very important. Supply Chain Management (SCM) is an upcoming and wide area and has been considered by scientists, researchers and academicians in the last years. One prominent research field is sustainability in SCM, namely Sustainable Supply Chain Management (SSCM). Both research and practical implementation have been growing steadily in the last decade in this specific area (Ahi and Searcy, 2013, 2014). The role of the food industry (retailers, manufacturers and food service) in helping consumers eat healthily and sustainably has been receiving considerable attention in recent years. Consumer perceptions thus show an increasing concern about food safety and about properties of the food they buy and eat. As the country experiences more pressure from globalization, the food industry sector is also subjected to the increased competition in the domestic market. The processors have to meet those challenges by responding very fast to avoid delays which can take them out of the business. If we combine both supply chain management and sustainability together one more interesting field emerges i.e., sustainable food supply chain management (SFSCM), which is applied in recent years as a reaction to stakeholder pressures (Gold and Hahn, 2013). The consumers are very cautious about the food they eat and this is the duty of producers, retailers and manufacturers to provide them healthy and sustainable food. Also the consumers are well educated and they know what to eat and what not to, thus the food industry has to fulfill the consumer's demands in less time due to increase in globalization. For the analysis of SFSCM based challenges in Indian food industry, we used Fuzzy DEMATEL approach.

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