Chapter 12
A Study on Factors Affecting Cold Supply Chain Performance in India

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ABSTRACT

The cold chain is an essential part of the supply chain process for perishable products. Recent studies have shown a decisive lack of efficient operational arrangements for cold chain services in developing economies like India. The key integral factors of cold chain industries have been identified on the basis of an extensive literature review as well as analyzing the influencing factors through the KMO Test for identification of the factors of cold chain performance. The end result will establish a relationship between high driving powers with low dependences and high strategic dependencies with low significance. It will also identify the major inhibitors, their role in the operation, and their effect on a cold chain in India.

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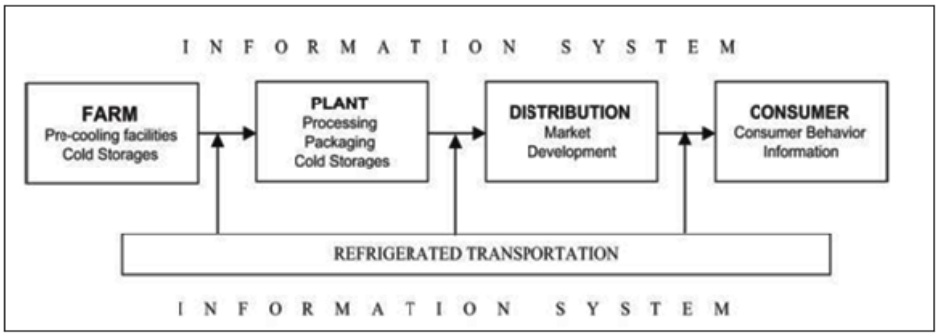
INTRODUCTION

A "cold chain" is the technology and process of production, keeping, and distributing perishable items in a temperature-controlled condition. It safeguards a wide variety of food and bio-products from degradation, temperature, humidity, light, or contaminants and keeps these iced and preserved items fresh and intact. The prime challenges are to maintain proper temperature and conditions throughout the process follow the necessary guideline and serve a quality product to the end user. The very first process of operations starts from the farms or production house itself followed by transport it to consumers through various channels. A typical cold chain product goes through several phases like pre-cooling, cold storage, refrigerated carries, packing, warehouse, traceability, retailer, and consumers in its life cycle, and the whole process is tracked by a strong information system.

Figure 1. A typical cold chain
Source: Montanari (2008), Viswanandham (2006)



Key management of the cold chain is to prevent avoidable losses. According to the literature, as an effective service system, certain variables and factors must be considered while building a cold chain process at the farm and logistics levels. The main worries are to identify success factors from the list. Besides this, a set of influences is also to be considered to construct a smart, sustainable, and cost-control arrangement.