Chapter 12
Quality Management in Food Packaging Industry

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ABSTRACT

Food packaging is a crucial part of our current lifestyle. It is important to improve the quality of food packaging from time to time, catering to the needs of modern consumers. Despite huge technical advancements, the food packaging sector is still facing several problems and challenges which need to be addressed, to facilitate better packaging. The purpose of this chapter is to enhance the quality of food packaging and to come up with more innovative ideas and methods based on various tools of quality. Various approaches based on new (N7) and basic (B7) tools of quality namely cause and effect diagram, inter-relationship diagram, and affinity diagram have been applied to understand and eliminate the root causes of the various problems being faced by the key supply chain players in the food packaging industry. The results of the study show that the problem does not lie in the methods or techniques applied but in perspective and inclination of the management and key players of the food packaging supply chain towards the quality.

INTRODUCTION

Packaging plays a significant role in the success of any product. Without packaging, material handling will be difficult, costlier and inefficient. Despite this utmost importance, there is no enough and up to date information about the packaging industry, its major trends and current issues which affect the packaging industry. In last 50 years, Packaging has evolved profoundly which has made our lives easier. From Heavy, rigid containers, made of wood, metals or glass, we have shifted to vast range of semi rigid or rigid and more flexible packaging materials made from specialized lightweight materials.

Consumer packaging not only ensures the security of the product by delivered the products in clean, safe form by avoiding spillage and spoilage, it delivers substantial economies and keeps the prices lower by providing the ease of handling, warehousing, retailing and distribution. With this increased advancement of consumer product goods, brand communication has become a key strategy for building

consumer loyalty. Product packaging has become a pivotal way to communicate product values among customers. The recent key trends such as, increasing awareness of wellness health, growing concerns of environmental impact, Stronger influence of recycling and environmental issues, purchasing power, increasing incomes have enabled the development and innovation in primary packaging and has also helped in identifying the potential areas for packaging growth in all regions throughout the world. The regional and country-specific trends such as urbanization, convenience, smaller pack sizes or internet retailing, data analysis and qualitative observations often affect the global packaging industry and helps in understanding it. Other than this, macroeconomic and consumer behavior trends also play significant role in certain regions for packaging industry.

GLOBAL FOOD PACKAGING MARKET

In packaging industry, the food market has the largest consumption group. The food products need more care in terms of packaging, as it is extremely important for food packaging to be more smart, rigid and flexible than before to deliver fresh and safe products to the end consumer. Similarly, the products need to be attractive and have engaging and alluring designs to grasp the attention of the potential buyers.

The global food Packaging industry has seen significant growth in the past few years. The global food packaging market value was estimated at 282 billion US dollars in 2016.An expansion in market is being predicted over the next years, in 2016-2026. It is expected to reach approximately 306 Billion US dollars by 2019 and CAGR will showcase an increment of 3- 3.5% from 2016-2022.The revenue of the global food packaging market is mainly dominated by the USA, Germany and Asia Pacific, including countries like Japan, China, India.

Types of Packaging

Figure 1 shows the basic structure of a supply chain and associated packaging types. Mainly, packaging can be mainly classified into 3 categories. These 3 categories represent the different levels of packaging. These three categories can be used together to consider packaging as a System, with three hierarchical levels.

- **Primary Packaging (Consumer Packaging):** The package which contains the actual product is referred to as a primary package. This package is used to protect the actual commodity or material and stays with the product until it has been used by the end consumer completely.
- **Secondary Packaging (Grouped Packaging):** The layer of protection covered to the primary package is called secondary packaging. Most of the times, this package is removed and discarded once the product is ready to be used.
- **Tertiary Packaging (Transport Packaging):** Tertiary packaging helps in the identification, handling, storing and transportation of food products. This packaging is crucial and mandatory for the products, particularly the perishable products and which need to be carried away and which are loaded and unloaded many times

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