

CHAPTER

5

STRATEGIC PACKAGING FOR SUSTAINABLE LOGISTICS

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5.1 INTRODUCTION

Logistics cannot function without careful packaging. It has an impact on logistics procedures as well as logistics effectiveness, cost, and performance. The term “packaging” encompasses the process of developing, testing, and manufacturing a product’s container (Regattieri et al., 2019). Product packaging entails three stages: planning, testing, and manufacturing. A package is a protective covering for a box, can, bottle, or any other type of container that allows for customization of the contents inside using designs, colors, and text typefaces (Hellström & Saghir, 2007). Reduced waste from careful packaging allows for more efficient operations, ensuring that the proper product is always on hand whenever it is needed. The efficiency of a business is directly tied to the quality of its packaging and logistics systems (Wu & Dunn, 1995).

Recent years have seen a rise in packaging research as businesses have realized that their success is directly tied to the quality of their packaging (Matyi & Tamás, 2023). The research aims to illuminate the significance of packaging in supply chain initiatives for commercial enterprises. The study demonstrates how incremental changes can have a significant impact on supply chain value and how the current system can be optimized to boost packaging appeal. There is a pressing need to

offer innovative strategies that reveal how we can improve the packaging in such a way that it contributes to the efficacy of the product.

Supply chain logistics and packaging's physical connection are broken down in detail. The results of this research provide an essential first step in quantifying the importance of packaging to corporate logistics initiatives. Over time, improvements in packaging have been made to attract the interest of business professionals. Logistics and packaging are being given thought considering the potential for enhanced efficient supply and effectiveness thanks to advancements in packaging that boost the efficiency and effectiveness of packaging operations within the supply system (Pålsson & Hellström, 2016). There are current attempts to define logistics adequately; however, they are imprecise and scattered over the literature. The importance of packaging for logistics operations in the company is clear.

One of the most significant factors in a product's success in the marketplace is its packaging, which serves to safeguard it from harm, communicates with customers, and facilitates smooth distribution (Regattieri et al., 2019). A robust packaging system that integrates logistics, marketing, the environment, and production is essential for the success of any corporate logistics operation (Hellström & Saghir, 2007). The packaging concept calls for a framework that puts the emphasis on a systemic perspective, where marketing and logistics are considered together. Some techniques and instruments will enable package evaluations all through the supply chain, helping to prevent sub-optimizations. Given that the scope of present approaches is constrained by internal business boundaries, we may conclude that further supply chain steps are needed. New ideas for packaging and a deeper comprehension of the complexities of packaging logistics and solutions are needed to improve the distribution process as a whole

5.2 STRATEGIC PACKAGING IN LOGISTICS EFFICIENCY

This section discusses relationship between strategic packaging decisions and logistics output. It examines the potential for improving efficiency

and lowering costs by analyzing numerous elements such as packaging design, materials, dimensions, and their impact on supply chain performance. It investigates how optimized packing selections can contribute to better inventory management, more efficient transportation, and more customer satisfaction. Finally, the study sheds light on the function of packaging methods in optimizing logistics output and emphasizes the significance of strategic decision-making in the field of logistics packaging.

5.2.1 Innovations in Sustainable and Smart Packaging

Sustainable packaging techniques have become more popular as environmental and sustainability concerns have grown. In recent years, academics such as García-Arca et al. (2017) have suggested frameworks for sustainable packaging that consider the economic and social components of packaging in addition to its effects on the environment. Sustainable packaging seeks to lessen its negative effects on the environment without sacrificing its usefulness (Cozzolino, 2021). In addition to lowering transportation costs by using less material, preventing goods from damage during transportation, and improving the overall sustainability of the supply chain, sustainable packaging has a number of advantages (Yan & Zhang, 2015).

Additionally, to lowering waste and greenhouse gas emissions, using sustainable packaging methods and materials can enhance a business's brand and attract customers who care about the environment (Ugarte et al., 2015). It is probable that innovation and developments in packaging technology will result in more ecologically friendly solutions as businesses continue to adopt sustainable packaging practices (Meherishi et al., 2019). Furthermore, the industry will continue to change because of the introduction of laws and standards pertaining to sustainable packaging, which will also motivate businesses to give sustainability top priority when it comes to their packaging methods.

Due to the increased public awareness of environmental issues, sustainable packaging practices have become increasingly popular in