

Chapter 11

Architectural Approaches in the Production Process of Logistics Spaces

Halit Coza

 <https://orcid.org/0000-0003-3034-6435>

Pamukkale University, Turkey

ABSTRACT

This study focuses on identifying architectural approaches in the production processes of logistics spaces. Designing logistics areas requires the examination of various factors to increase functionality, optimise efficiency, and integrate sustainability principles. Sustainability is increasingly crucial in the business world, and logistics spaces should be designed accordingly. This study examines how sustainability principles can be applied in the design of logistics areas, including elements such as energy efficiency, waste management, and the integration of green technologies. Another focus is on how architectural approaches in the design processes of logistics spaces impact logistics processes. Architectural design directly affects production efficiency, so aspects like area planning, material flow optimization, and workforce efficiency must be comprehensively addressed. The study aims to provide a broad perspective on innovative architectural designs for the production processes of logistics spaces and serve as a guide for future logistics space designs.

INTRODUCTION

Logistics has become an indispensable component of the business world today. Effectively managed logistics, from the production of goods to their delivery to consumers, enables companies to gain a competitive advantage and increase customer satisfaction. The concept of logistics has its roots in the management of materials and personnel used in military operations. In ancient Rome, the term “logistics” was used to organize the transportation and distribution of materials for the army. In the Middle Ages, logistics emerged in trading cities to regulate material transportation processes in both land and sea trade. The world is rapidly changing and evolving with the impact of globalization and technologi-

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cal advancements. This rapid technological progress compels consumers and businesses to engage in intense competition and adapt to the pace of time. In order to sustain their presence in the competitive environment and gain an advantageous position over their competitors, businesses need to deliver their products and services to target audiences quickly and economically. In this context, factors such as low cost, high quality, and customer satisfaction within logistics activities provide significant advantages to businesses. Leveraging these advantages, businesses tend to enhance products to strengthen themselves in the competitive environment and strive for leadership in the market. Today, businesses must operate in an active structure to deliver their products and services to target markets as quickly as possible. This situation leads businesses to think of their supply, production, and distribution processes as a chain. With the vigorous development of global trade, the logistics industry has become an important force to promote economic development. As the core link of logistics supply chain, the space design of logistics center is very important to put forward high logistics efficiency and reduce cost. The development of just-in-time production and distribution systems has triggered the advancement of the logistics service sector. As a fundamental component of the production process, logistics spaces have become a significant force in promoting economic development. The design of logistics spaces, which are an indispensable part of the logistics supply chain, is crucial to ensuring high logistics efficiency and reducing costs. However, with the rapid expansion of logistics spaces, development deficiencies are increasingly emphasized. Some logistics spaces face issues such as irrational planning in the early stages and irregular management in subsequent stages. Efforts are underway to improve the current situation, enhance the quality of logistics services, and ensure that logistics space buildings meet logistical demands through production-based design and research. Additionally, sustainable and environmentally friendly architectural designs that meet the increasing consumer demand for eco-friendly practices in the supply chain are gaining interest. By adopting green building materials, incorporating renewable energy systems, and designing energy-efficient structures, businesses can reduce their carbon footprints and contribute to a more sustainable supply chain ecosystem. A study published in the *Supply Chain Management Journal* emphasizes how sustainable architectural designs positively affect supply chain performance, support long-term competitiveness, and promote social responsibility. In conclusion, the evolution of the supply chain sector has deeply impacted the architectural designs of businesses in 2023. By considering supply chain dynamics in the design process and leveraging innovative technologies, businesses are enhancing operational efficiency and improving customer experiences. As technological advancements reshape various sectors of our lives, they also bring about efforts to adapt to the demands of the time. Efforts to adapt to change necessitate the adoption of new layout design's in the production phase, alongside leveraging technological innovations. Within this framework, evaluating and introducing new architectural approaches are seen as the foremost requirement in today's world. Architectural approaches in the production process of logistics spaces require more modern, innovative, and non-traditional approaches to enable more effective execution of the production process, less energy consumption, and the ability to conduct more efficient future work, as the diversity of suppliers' business models increases. In this paper, architectural approaches are focused on to efficiently optimize the design process by considering the logistics needs of each company.

Logistic Spaces and Their Characteristics

Efforts to enhance logistic efficiency have laid the groundwork for the development of critical concepts such as logistic spatial structures. These spaces are strategic points where various logistic activities are

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