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Business Logistics and Its Impact on Organizational Efficiency (Storage, Transportation, and Customer Service)

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Abstract
This research paper examines the nature of logistics services, their main activities, and their relationship with other organizational functions. Its primary objective is to provide a theoretical overview of logistics services by addressing their concept, importance, and core activities, while highlighting their relationship with the fundamental functions of an organization.
The growing interest in the logistics function stems from its strategic role and distinctive position within organizations. Effective management of logistics activities, emphasizing their importance and clarifying their impact on other functions as well as on the organization's overall performance, represents a hallmark of modern management. The study concludes that the efficient implementation of logistics activities enables organizations to achieve competitive advantages and increase profitability through superior customer service and cost reduction, thereby ensuring organizational success and long-term sustainability.
Keywords: Logistics services, logistics, supply, organizational functions.

Introduction

The rules of competition require business organizations to continuously improve their performance, compelling them to consider the various aspects and strategies adopted in carrying out their activities and functions. This enables organizations to capitalize on opportunities available in their external environment while avoiding potential threats. In discussing organizational functions, one of the most essential elements that deserves priority and careful attention is logistics services.

Logistics activities have become one of the most significant topics in the field of business administration, attracting increasing academic and practical interest in recent years. This interest has focused on their concept, importance, components, and implementation within contemporary organizations. As organizations expand in size, diversify their activities, and broaden their product lines and markets, logistics activities have gained increasing prominence, becoming the backbone of modern organizations by ensuring effective customer service while achieving competitive advantage.

Given their strategic importance, logistics activities must be managed and coordinated efficiently to maximize their effectiveness and benefits. The movement of supplies and materials can significantly influence an organization's overall performance by creating both time and place utility. This contributes to cost reduction, enhances customer satisfaction, and strengthens the organization's competitive capabilities.

Accordingly, the central research question of this paper is:
What are logistics services, what is their importance, and how are they related to the other functions within an organization?
To address this research problem, the following hypothesis is proposed:
Logistics services consist of a set of core activities, most notably transportation, storage, and customer service. They are of such strategic importance that they constitute the organization's main artery and maintain a strong relationship with its other functional areas.
This paper aims to:
Provide a theoretical and conceptual framework for logistics services.
Highlight their importance and principal activities.
Explain the relationship between logistics services and other organizational functions.
The research adopts the descriptive approach, as it is the most appropriate methodology for the nature of this study.
To answer the research question, the paper addresses the following topics:
The concept of logistics services.
Their main activities and types.
The relationship between logistics services and other organizational functions.

1. Concept of Logistics Services

1.1 Definition of Logistics

Despite being a relatively recent field of knowledge, logistics has experienced rapid development. It evolved from Physical Distribution to Materials Management, and subsequently into Integrated Logistics, which encompasses both Materials Management, now referred to as Inbound Logistics, and Physical Distribution, known as Outbound Logistics, in addition to internal material handling. This evolution did not stop there; logistics further developed into the concept of the Supply Chain, which later expanded into the Global Supply Chain. The continuous advancement of logistics over time has given rise to numerous modern concepts and trends in this field **(Nichols, 2008)**
In Arabic, logistics is referred to as the art of logistics management **(Saber, 2014)**It is defined as both the art and the science of managing the flow of goods, energy, information, and other resources such as products and services. Logistics encompasses information gathering, transportation, inventory management, purchasing, warehousing, material handling, packaging, customer service, and product order scheduling.
Logistics is also defined as the process of anticipating customers' needs and expectations and providing the materials, human resources, technology, and information required to satisfy those needs. At the same time, it aims to optimize the production network for goods and services while fulfilling customer orders. According to Mustafa (2012), the following conclusions can be drawn:
The primary focus of logistics is responsiveness to customer service, that is, meeting customers' needs and expectations.
The objective of logistics activities is to provide goods and services to consumers in target markets in the most effective and efficient manner, particularly with regard to time, place, and product condition.

Logistics activities contribute to customer service as a means of achieving a competitive advantage.

The concept of logistics also refers to the management of the flow of goods and services required by an organization, together with the information system necessary to support this flow **(Idris, 2002–2003)**The importance of the logistics function diminishes when an organization produces all the goods and services required for its operations internally.

According to James Heskett, logistics management "facilitates the movement of products, coordinates supply and demand, and creates time and place utility by providing materials at the right place and at the right time" **(Pierre Médan, 2008)**.

Logistics activities can therefore be defined as a set of functions including transportation, warehousing, procurement, customer service, packaging, and related operations. These activities require effective coordination and management to ensure the smooth flow of production and sales processes, thereby supporting the organization's objectives of reducing costs, maximizing profits, and maintaining its competitive position.

1.2 Importance of Logistics Services

The Importance of Logistics Services

The importance of logistics services first emerged in the military field. Their use began in the French Army in 1905 with the objective of ensuring the timely and efficient delivery of supplies and ammunition. Logistics was regarded as one of the key factors contributing to the Allied forces' victory.

Following the end of the Second World War, studies began to emphasize the importance of applying logistics principles to the business sector, giving rise to what became known as Business **Logistics (Azzam, Logistics Business Management, 2012).**

Research conducted in this field has shown that, on average, approximately 40% of the production cost of any product in developed countries can be attributed to logistics activities. Since most companies in these countries employ similar production technologies, achieving or sustaining a competitive advantage has become virtually impossible without improving logistics performance and reducing logistics costs. These logistics activities encompass all supporting functions of the production process, including pre-production activities such as purchasing raw materials, transportation, storage, insurance, and the necessary banking operations. They also include activities carried out during production, such as internal material handling, as well as post-production activities, including packaging, promotion, warehousing, transportation, insurance, and after-sales services.

The most distinctive features of logistics activities, compared with the traditional practices that preceded the emergence of this concept, are twofold. First, these activities are managed in an integrated manner, applying the principles of integration to benefit from economies of scale. Second, logistics activities are performed under the umbrella of integrated information systems **(Azzam, Logistics Business Management).**

In addition to the cost factor, the importance of logistics services can also be highlighted through the following aspects:

1.2.1 Long Supply and Distribution Chains

With the globalization of industry and the growing emphasis on international marketing, organizations have become increasingly dependent on logistics performance. Consequently, logistics activities have gained greater significance within organizations, particularly multinational corporations and firms targeting large domestic and international markets. The increasing costs associated with extended supply and distribution networks have made it essential to carefully analyze, evaluate, and optimize logistics activities **(Idris, 2002–2003)**

2.2.1 Logistics as a Strategic Tool

Organizations strive to differentiate their products from those of their competitors. A cost leadership strategy depends largely on efficient logistics performance in terms of both cost reduction and customer service. Organizations that achieve excellence through effective logistics management are better positioned to develop a sustainable competitive advantage, enabling them to expand their operations and increase their market share **(Idris, 2002–2003)**

3.2.1 Logistics Adds Value for Customers:

Any product or service has less value to potential customers if it is not available at the right time and in the right place. However, when an organization makes efforts to provide goods or services to current and potential customers through efficient order processing, information management, warehousing, and transportation, it creates added value for customers. This enables them to satisfy their needs at the appropriate time and place. Thus, logistics contributes to the smooth and efficient flow of various products to customers.

4.2.1 Rapid Technological Developments:

The revolution in communication, information technology, and technological innovation has contributed significantly to solving organizational logistics problems, such as the increasing variety of transportation modes, storage methods, and product types. This has facilitated the integration of logistics activities while achieving cost efficiency.

The main reasons that have led organizations to rely on logistics services include the following:

The lack of the human and financial resources required to provide services at internationally accepted standards.

Insufficient time to develop the company's capabilities in the field of logistics.

The company's entry into a new line of business with logistics requirements fundamentally different from those of its existing activities.

The provision of logistics services by a third-party logistics (3PL) provider is often more economically efficient than managing integrated logistics operations internally.

3.1 Objectives of Logistics

According to H. Bouquin and J.C. Becour, the objectives of logistics can be summarized as follows **(Al-Amayreh, 2014)**:

3.1.1 Short-Term Logistics Objectives

Short-term logistics aims to improve the physical flow of goods from the source to the final destination. This is achieved through:

Defining purchasing and production programs.

Scheduling shipments.

Organizing after-sales services and spare parts distribution.

Ensuring operational continuity by establishing a maintenance plan.

3.1.2 Medium-Term Logistics Objectives

Within the framework of business plans and budgets, logistics aims to:

Identify procedures that control the logistics costs of the services the company has chosen to develop.

For example, if a company decides to implement production according to the principle of postponement (delayed differentiation), logistics should help understand and optimize all production and storage mechanisms associated with this organizational approach.

Advise managers in deciding which operations should be performed internally and which should be outsourced to specialized companies.

For example: Should the company provide after-sales service itself, or would outsourcing be a better option?

Make a significant contribution to optimizing the utilization of investments and company capital.

3.1.3 Long-Term Logistics Objectives

From a long-term perspective, the objectives of logistics are to:

Help the organization manage complexity and uncertainty arising from lead times, delays, and the increasing diversity of products and markets.

Continuously update knowledge regarding the impact of logistics on the operating costs of both customers and the organization.

Provide the organization, where appropriate, with a competitive advantage by offering superior and more suitable logistics services to its customers.

4.1 Quality of Logistics Services

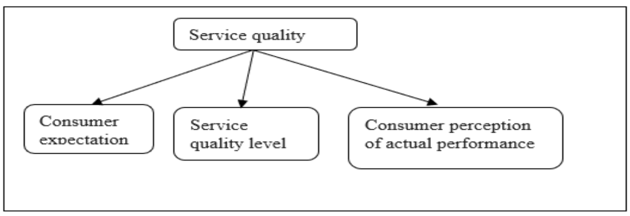
Discussing logistics services inevitably leads to examining their quality from the customer's perspective. The following section focuses on service quality as perceived by customers.

It is difficult to establish a precise definition of service quality because of the unique characteristics of services compared with tangible goods. Nevertheless, one widely accepted definition describes service quality as the degree to which the actual performance of a service conforms to consumers' expectations **(Al-Mahyawi, 2000).**

It is also defined as the quality of the services provided, whether expected or perceived by customers. In other words, it refers to the level of service that customers anticipate or actually experience. Service quality is considered the primary determinant of customer satisfaction or dissatisfaction and is one of the main priorities of organizations seeking to enhance the quality of their services **(Al-Dararakah, 2001).**

The following figure illustrates the concept of service quality:

Figure 1: The Concept of Service Quality



Almahayoui,2000

The researcher believes that the quality of customer logistics services is merely an extension of the logistics activities that precede customer service, including planning, organizing, and controlling. Coordinating and managing various logistics operations—such as purchasing, transportation, storage, and information flow—enable an organization to produce goods with the appropriate quality, at the appropriate time, and at an appropriate cost. Consequently, this enhances customer service, fulfills customer requirements, ensures the smooth flow of materials, and ultimately leads to customer satisfaction.

2. Logistics Activities and Their Types

2.1. Basic Logistics Activities

The main logistics activities include the following:

2.1.1. Customer Service

"Providing customer service efficiently is an important factor in creating demand for a product or service and maintaining customer loyalty" **(Ballou, 2004)**Customer service is considered the primary function of an organization, while the planning of other functions is based on the requirements of this function. Effective customer service requires studying customer needs in order to perform activities more efficiently. This includes identifying customers' needs and desires, assessing their responses to the service, and establishing appropriate customer service standards.

Customer service refers to a series of activities aimed at satisfying the customer. These activities usually begin with the purchase order and end with the delivery of the product to the customer. In some cases, they continue through equipment servicing, maintenance, and other forms of technical support.

In most organizations, logistics customer service focuses on providing customers with speed and reliability in delivering the products they request. Customer service is viewed as a key component of the marketing strategy, as marketing is often described as a mix of four elements: product, price, promotion, and place. The "place" element represents distribution activities, and together these elements contribute to customer service with the objective of:

Identifying the extent of customer needs.

Determining customers' responsiveness to the service.

Establishing the appropriate level of customer service.

2.1.2. Transportation

Transportation contributes to achieving delivery quality by selecting the appropriate mode of transport, determining optimal routes, and scheduling shipments. It also helps reduce transportation costs through negotiations with transport providers and by evaluating whether it is more economical to own or lease transportation facilities.

Transportation creates both place and time utility for manufactured goods. A manufacturing company may face numerous problems if suitable transportation is unavailable, such as order cancellations, production stoppages, inventory accumulation, and product deterioration.

Therefore, organizations must make several key decisions regarding the selection of the most appropriate transportation mode. The importance of these decisions lies in the direct relationship between transportation efficiency and the chosen mode of transport. Consequently, the selected transportation mode significantly affects product price, delivery time, product performance, and the condition of goods upon arrival, all of which directly influence customer satisfaction.

For transporting goods to warehouses and commercial outlets, a company can choose among five modes of transportation, including:

Water transportation.
Rail transportation.
Road transport;
Pipeline transport;
Air transport.

The transportation system within the logistics framework consists of the transportation network (roads and railways), moving vehicles, and terminals. Transportation modes represent the primary component of transport activities, followed by supporting activities such as loading and unloading operations, as well as agencies that facilitate and organize transportation processes **(Lashin, 2009).**

3.1.2 Storage

Storage is a fundamental function in any organization, whether agricultural, productive, or industrial **(Hafez, 2011)**

Storage involves establishing policies for storing raw materials and finished products, forecasting short-term sales, developing strategies for inventory replenishment and withdrawal, and determining the number, size, and location of storage facilities, as well as the optimal product mix.

Inventory management focuses on planning and organizing all activities related to the flow of materials and goods in the required quantities and specifications. It also includes receiving and inspecting incoming materials and goods, storing them in appropriate facilities to protect them from loss, theft, damage, and deterioration, and issuing them to requesting departments both inside and outside the organization.

The primary objective of inventory control is to determine the quantities of materials and goods that should be maintained in stock to ensure that anticipated requirements for physical distribution and logistics management are met at the lowest possible cost.

In addition, logistics encompasses information flow and order processing, including sales procedures, storage orders, methods of transmitting and processing order information, and order management rules.

2.2 Types of Logistics

Several categories of logistics can be identified, as discussed below:

2.2.1 Administrative Logistics

Administrative logistics is a component of the supply chain responsible for planning, implementing, and controlling the efficient and flexible flow and storage of goods between the point of production and the point of consumption, with the ultimate objective of satisfying customer needs.

It also encompasses all activities related to loading, unloading, stacking, storing, and delivering goods from their arrival point to the customer's location. Furthermore, logistics includes the transportation of passengers by land, sea, or air. One of the defining characteristics of logistics is its ability to ensure the safe movement of goods from one location to another without damage, regardless of whether transportation is carried out by road, sea, or air.

2.2.2 Production Logistics

This term is used to describe logistics activities associated with production, such as supplying raw materials and essential goods to manufacturing facilities and distributing finished products after the completion of the production process.

Moreover, production logistics seeks to maintain a smooth and efficient flow of materials to ensure uninterrupted production while taking into account costs, service levels, and other important logistical considerations.

Production logistics also addresses the design of internal factory layouts to facilitate the efficient movement of workers, materials, equipment, and information, thereby maximizing productivity while minimizing costs. In addition, it focuses on determining the logistics capacity required to accommodate production volumes and the length and efficiency of production lines.

2.2.3 Third-Party Logistics (3PL):

Although many organizations perform their logistics activities internally, there has been a growing trend toward outsourcing logistics operations to specialized logistics service providers. This is particularly common among organizations that experience weak performance in logistics activities. The use of a third-party logistics provider (3PL) is based on the concept of vertical disintegration, which is the opposite of vertical integration. In other words, the production process is separated from logistics operations, allowing firms to concentrate on production while outsourcing logistics functions—such as transportation, warehousing, and distribution—to specialized logistics providers. The primary objectives are to reduce costs and provide better customer service **(Ali, 2011).**

There are several forms of Third-Party Logistics (3PL):

Type One: In its simplest form, a logistics company receives goods from another company, packages them, transports them, stores them, and distributes them.

Type Two: Service Developer:

This type provides customers with advanced value-added services, such as tracking and tracing systems, as well as specialized logistics services, including customized packaging.

Type Three: Customer Adapter:

The logistics provider assumes responsibility for all of the company's logistics activities but does not significantly develop or improve them.

Type Four: Customer Developer:

This provider takes full responsibility for all logistics activities, continuously develops and improves them, and becomes fully integrated into the client's organizational structure.

2.2.4 Warehouse Management Systems (WMS) and Warehouse Control Systems (WCS):

There is a distinction between Warehouse Management Systems (WMS) and Warehouse Control Systems (WCS).

A Warehouse Management System (WMS) is responsible for planning and forecasting weekly warehouse operations based on statistical data and performance indicators.

In contrast, a Warehouse Control System (WCS) directly supervises real-time logistics operations and material movements within the warehouse. It oversees the execution of logistics tasks to ensure that warehouse operations are carried out as efficiently and accurately as possible.

2.2.5 Business Logistics:

An individual may work either in a specialized logistics company (such as a transportation or airline company) or within the logistics department of an organization. Logistics activities—particularly in Fourth-Party Logistics (4PL)—are extensive and encompass production, distribution, and end-of-life product management. Consequently, graduates with advanced degrees in logistics can also work as consultants, providing organizations with professional advice and integrated logistics solutions.

2.2.6 Emergency Logistics:

Emergency logistics is a term commonly used in logistics (transportation and supply) and supply chain management to refer to time-critical transportation services designed to move goods rapidly during emergencies. The need for emergency logistics may arise due to actual or anticipated production delays or the urgent requirement for specialized equipment to prevent or address unforeseen incidents. Examples include Aircraft on Ground (AOG) situations, shipping delays, or failures in telecommunications systems. In such cases, emergency logistics services are typically provided by specialized logistics companies with expertise in rapid-response transportation and supply chain solutions.

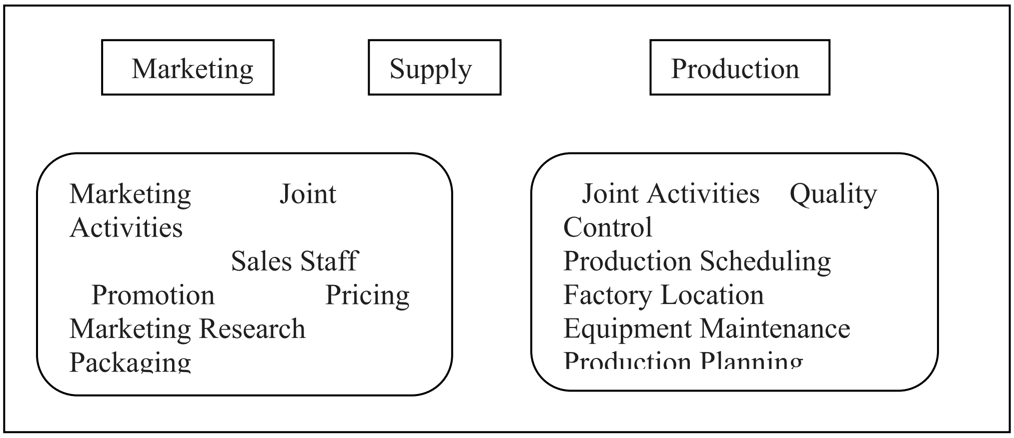
3. The Relationship Between Logistics Services and Other Organizational Functions

3.1 The Relationship Between Logistics Services and Production

The relationship between logistics services, production, and marketing can be illustrated as follows:

Marketing → Logistics (Materials Handling – Transportation – Warehousing – Information Flow) → Production

Figure 2: The Role of Logistics and Its Relationship with the Production and Marketing Functions.



Source: (Saber, 2014)

Production and operations management is responsible for producing goods and services, which reflects the organization's ability to create added value. This requires the organization to maximize profits while minimizing costs. The difference in objectives may lead the organization to fragment its focus on logistics services. Furthermore, the lack of coordination among logistics services often results from viewing logistics activities as separate rather than integrated functions. The relationship between logistics services and the production management function can be summarized as follows **(Ballou, 2004):**

Ensuring the timely receipt and provision of supplies according to production schedules and plans to prevent production interruptions.

Providing supplies of the required quality, along with the necessary equipment, production facilities, and maintenance resources.

Maintaining flexibility and responsiveness to emergency requirements of production lines and maintenance centers.

Providing transportation, storage, and material-handling services for the various stages of production, as well as for production lines and maintenance activities, in order to ensure smooth workflow and efficiency throughout the production process.

3.2. The Relationship Between Logistics Services and Marketing

Marketing is a process that encompasses several elements, including market research, pricing, promotion, and the distribution of goods and services, all of which contribute to achieving organizational objectives. One of the distinctive features of marketing is its focus on distribution channels to make products more accessible to consumers.

Logistics services influence marketing through the following aspects:

Product cost **(Bakr, 2004).**

The time required to produce the product.

Product quality.

The time required to make the product available to customers.

The level of customer satisfaction with the services provided by the organization.

The relationship between logistics service sources that procure or supply the organization's goods and its customers and suppliers.

The relationship between logistics services and marketing is therefore complementary and highly interconnected, with several areas of overlap. It is also worth noting that logistics management provides the marketing function with the following information:

Current and future quantities of products sold, as well as various marketing plans.

Information about current and potential customers, in addition to suppliers.

Information required for purchasing decisions regarding quantity, quality, and the appropriate timing of purchases.

3.3. The Relationship Between Logistics Services and Financial Management

There is no doubt that financial management maintains extensive relationships with various organizational functions. It is considered one of the most complex functions, making it difficult to define its exact scope. The relationship between financial management and logistics is reflected in the financial allocations dedicated to logistics operations such as purchasing and warehousing. Within the limits of the organization's financial capabilities and resources, the supply management department makes the necessary decisions regarding the expenditure of its allocated budget.

In addition to information related to the financial allocations of logistics services management **(Hanafi, 2004),** the following information may also be included:
Information concerning credit and borrowing conditions.
Information about the capabilities and financial positions of suppliers.
Information regarding the financial resources available for logistics activities, including purchasing, transportation, warehousing, and material handling.
In turn, logistics management provides financial management with information including:
Changes in current or future purchasing volumes, requiring the provision of the necessary financial resources.
The time required for procurement operations in order to arrange the necessary funding.
The financing required for logistics activities and the estimation of resources needed to manage physical, technical, and human capabilities.
Establishing the principles and criteria for measuring the returns on logistics activities in order to evaluate their financial performance and profitability.

4. Results

Based on the foregoing discussion, the following conclusions can be drawn:
According to the proposed hypothesis, logistics services consist of a set of core activities, primarily transportation, warehousing, and customer service. Their significance lies in the fact that they constitute the lifeblood of an organization and maintain a strong relationship with its other functional areas.
The theoretical review revealed that although logistics services originated in the military sector, they have become more closely associated with business organizations, whether manufacturing or service-oriented. Logistics comprises several primary and supporting activities; however, this study focused on the main activities of transportation, warehousing, and customer service. These activities contribute to achieving the following:
Transportation: Transportation creates both time and place utility by ensuring the movement of raw materials, production inputs, and finished goods. It facilitates the continuous flow of materials and supplies required for production processes and workshops. Transportation is considered one of the fundamental logistics activities, as no organization can effectively conduct its operations without ensuring the movement of raw materials needed for production or the delivery of finished products to customers and markets.
Warehousing: Warehousing generates economic benefits by storing raw materials and production inputs purchased in large quantities, thereby reducing procurement costs. It also ensures the continuity and smooth flow of production and sales operations. Furthermore, warehousing provides flexibility in both production and distribution processes.
Customer Service: Customer service enhances customer satisfaction and loyalty, encouraging customers to continue purchasing the organization's products. Customer satisfaction reflects the quality of service provided. Delivering products at the right time, in the right place, and according to the required specifications contributes to improving sales performance and strengthening the organization's competitive position in the market.
The importance of logistics services is also reflected in the fact that they account for a significant proportion of the total cost of any product. Consequently, organizations should give

this aspect high priority. Since the cost of production largely determines the selling price of a product or service, controlling logistics costs within reasonable limits directly affects organizational profitability and competitive advantage.

Furthermore, the analysis of the relationship between logistics services and the organization's core functions demonstrates the existence of a strong interrelationship characterized by mutual influence between logistics and the functions of production, marketing, management, and finance. There are several overlapping responsibilities and shared activities among these functions, highlighting the need for effective coordination to maximize organizational efficiency and effectiveness.

5. Conclusion

This research paper addressed a highly significant topic for both manufacturing and service organizations. Logistics services have become so essential that they now represent the main artery of organizational operations. Consequently, logistics has attracted increasing attention from researchers and practitioners alike.

The study examined logistics services in terms of their concept, importance, objectives, types, and relationship with other organizational functions. Based on the findings, the following conclusions and recommendations are proposed:

Logistics services are an essential requirement of modern organizational management. No organization seeking competitiveness and customer satisfaction can operate effectively without them.

Efficient management of logistics activities enables organizations to achieve competitive advantages, improve profitability through superior customer service, reduce costs, and ensure long-term success and sustainability.

Logistics services encompass a range of activities and operations, including transportation, warehousing, and customer service.

Organizational management should assign the highest priority to logistics services, provide them with adequate attention, and clearly define their role within the organizational structure.

Organizations should ensure effective planning, organization, coordination, and control of logistics services.

Logistics services should be regarded as an integrated system of interrelated activities that collectively support the achievement of organizational objectives.

Recommendations

The impact of logistics activities on organizational performance should be clearly demonstrated and institutionalized as a standard managerial practice.

The returns generated from logistics services should be presented in quantitative terms so that all stakeholders recognize that logistics services are not a burden, but rather a value-creating function.

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