

PERFORMANCE EVALUATION OF LOGISTICS MANAGEMENT

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Abstract: *Logistics is a crucial component of any enterprise's operations—one that is difficult to overlook today, given the overarching goal of maximizing profit while minimizing costs. This paper outlines methods for measuring logistics management performance and the challenges associated with this process. The primary issues in measuring logistics performance stem from a lack of alignment between organizational strategy and performance measurement systems, an emphasis on financial indicators, and the use of numerous, isolated, and incompatible measurement tools. The expansion of global logistics networks has necessitated the evaluation of logistics performance at the national level and the development of tools that enable cross-country comparisons.*

Key-words: *logistics, logistics management, logistics management performance.*

JEL-Classification: *L91, M11.*

1. Introduction

Logistics is a crucial, value-generating link that seeks to harmonize all constituent processes—ranging from the real-time sourcing of raw materials and their transformation into finished products within customer-mandated timeframes to the final delivery to the client at optimized costs.

The purpose of establishing a logistics performance measurement system is to accurately assess outcomes (whether positive or negative), identify and meet customer requirements, pinpoint issues regarding procedural implementation or the need for procedural adaptation and improvement, evaluate the utility and soundness of decision-making processes, and identify challenges in implementing managerial decisions.

In logistics, performance measurement relies on qualitative and quantitative indicators designed to quantify both the efficiency and effectiveness of operations. Both process-based and strategy-based indicators are essential at various levels; they complement one another, facilitating the achievement of objectives across the organization.

2. On the concept of logistics

The term "logistics" is rooted in the military domain. Logistics was considered that branch of the art of war concerned with the movement and supply of armies (Pânzariu and Scipanov, 2016, pp. 61–69).

Subsequently, the need to address the challenges armies faced during wartime regarding the transport of materials from one location to another led to the creation and use of logistics system models (Gănescu, 2017, pp. 7–8). The concept of logistics was first introduced in a work on military theory by Antoine Henri Jomini (Popescu-Cruceru and Udrescu, 2013, p. 21). In his 1838 work **Précis de l'art de la guerre** (Summary of the Art of War), the author identified the six military branches that constitute the art of war at the command level: strategy, grand tactics, logistics, the art of engineering, minor tactics, and politics.

In Jomini's view, logistics was the concern of high-ranking commanders; Napoleon himself served as his own logistics specialist, strictly calculating march distances and the effort required to transport materials for the execution of missions.

Specialized literature highlights the following stages in the evolution of logistics in the USA (Gănescu, 2017, p. 9):

- Coordination of operations (initially, the primary concern focused on coordinating transport, warehousing, storage, and order processing operations, with the aim of ensuring customer service at a cost-efficient level);
- Reorganization of personnel involved in these activities (aimed at increasing the efficiency of physical distribution management and materials management);
- Integrated logistics (the integrated logistics system brings together the chain of links that enable products to be provided at the right time and place, in the requested quantity and form);
- Strategic logistics (inter-organizational alliances that allow a company to combine its assets and performance with services offered by other logistics operators).

According to author Liviu Ilieș (Bălan, 2001, p. 22), the evolution of logistics involved passing through the following phases:

- Distribution logistics (until the 1970s, specialists viewed physical distribution management as a tool of sales policy, aimed at coordinating and optimizing transport and delivery efficiency to end customers in order to secure a competitive advantage);
- Supply and production logistics, viewed as materials management (after 1970, the focus shifted to ensuring cost-efficiency in the procurement of raw materials and production supplies, production scheduling, and inventory management, with the aim of purchasing raw materials at minimum prices and aligning production with sales);
- Integrated logistics (after the 1990s, logistics emerged as a fundamental strategic lever for securing a competitive market advantage, based on an analysis of the total cost of logistics activities).

To better understand the concept of logistics, a number of interpretations are presented below.

In 1962, the NCPDM defined logistics in terms of the activities performed by logistics personnel, as follows: "the industrial or commercial employee involved in the broad spectrum of activities required to ensure the efficient movement of finished products from the point where they leave the manufacturing process until they reach the consumer. This also encompasses the movement of raw materials from suppliers to the point of entry into manufacturing. Specifically, these activities include: freight transport, warehousing, goods handling, packaging, inventory control, plant and warehouse site selection, order processing, market forecasting, and customer services."

The definition presented above expands the scope of logistics to include additional tasks, such as market forecasting, customer services, and the selection of plant and warehouse locations.

Another definition of logistics characterizes it as "the technique of controlling and managing the flows of materials and products from the source of supply to the point of consumption" (Ciobanica, 2017). Compared to previous ones, this definition clearly encompasses supply flows and the management aspect of logistics.

The interest shown by professional organizations in the study of logistics did not stop there; in 1972, the Council of Logistics Management (CLM) provided a new definition of the concept, describing logistics as "a term describing the integration of two or more activities for the purpose of planning, implementing, and controlling an efficient flow of raw materials, semi-finished goods, and finished products from their point of origin to the point of

consumption. These activities may include customer service, demand forecasting, distribution communications, inventory control, material handling, order processing, after-sales service, spare parts support, plant and warehouse location selection, procurement, packaging, handling of returned goods (through negotiation, reuse, reconditioning, disposal, etc.), transport organization, and the actual transportation of goods, including warehouse handling and storage."

This perspective, reflected in the definition, takes into account management-related aspects, including planning and control.

Logistics is a process consisting of the planning, implementation, and control of the efficient flow and storage of raw materials, work-in-progress, finished goods, and related information from the point of origin to the point of consumption, with the aim of meeting customer requirements.

In specialized economic literature, logistics is defined as a collection of activities related to the procurement, movement, storage, and delivery of parts and goods within a logistics chain. Logistics encompasses the functions of transportation, distribution, warehousing, and materials and inventory management. It is linked to manufacturing and marketing.

The term "logistics" has been addressed in specialized literature by various authors, including James L. Heskett, who stated in 1977 that the logistics process encompasses the set of activities involved in product flow and resource coordination, achieving a specific service level at the lowest cost.

Furthermore, ASLOG (Association Française pour la Logistique) considers logistics to be a function aimed at making a product available—at the lowest cost and required quality—at the specific place and time where demand exists. Logistics encompasses product movement as well as the location of plants and warehouses, procurement, inventory management, handling and order preparation, and transportation and delivery routing.

According to the definition provided by the UN/ECE and the ECMT (European Conference of Ministers of Transport), logistics is the process of designing and managing the supply chain in the broadest sense. This chain may encompass the supply of raw materials needed for production, material management at the production site, delivery to warehouses and distribution centers, and the sorting, handling, packaging, and final distribution to the point of consumption.

In English-language literature, logistics is defined as "designating the time required to position resources." Thus, two forms of logistics emerge: one that seeks to optimize material flow through a network of transport connections and storage nodes, and another that focuses on coordinating a specific set of resources to carry out an activity. Logistics encompasses activities aimed at harmonizing time and space with goods and people through their appropriate grouping.

Thus, logistics is defined as the integrated planning, organization, and control of all flows of goods and materials—along with their associated information flows—extending from suppliers, through value-creation stages, to product delivery to customers, and including recycling and waste disposal.

Based on the definition regarding the field of goods logistics, we can state that the logistician's mission is to deliver goods and services to the right place, at the right time, and under the required conditions, while ensuring the greatest possible contribution to the company's profit (Ciobanica, 2017).

According to James Heskett, logistics encompasses the set of activities involved in product flow and the coordination of resources and market outlets to achieve a specific service level at the lowest cost (The Council of Logistics Management, 1991).

In my view, logistics is a crucial link in any enterprise's operations—one that is difficult to ignore today, given the objective of maximizing profit while minimizing costs. Logistics is a key value-generating link that seeks to harmonize all component processes: from the real-time procurement of raw materials and their processing into finished products—meeting customer-set deadlines—to the final delivery to the customer at highly optimized costs.

3. Logistics management performance evaluation

Measuring performance in logistics is currently becoming a priority; its aims include identifying results, defining customer needs, fostering an understanding of processes, pinpointing internal issues requiring improvement, and ensuring that decisions are based on facts rather than assumptions, emotions, beliefs, or intuition (Ganescu, 2017, p. 17).

The purpose of establishing a logistics performance measurement system is to accurately determine positive or negative outcomes, identify and meet customer requirements, detect issues regarding the implementation of procedures—or the need to adapt and improve them—assess the utility and soundness of the decision-making process, and identify problems in the implementation of managerial decisions.

In logistics, performance measurement is carried out using qualitative and quantitative indicators designed to quantify both the efficiency and effectiveness of actions. Both process-based and strategy-based indicators are necessary at various levels and complement one another, facilitating the achievement of objectives at the respective organizational level. For instance, financial performance tools are important for strategic decision-making, whereas non-financial performance tools are useful for controlling and evaluating manufacturing and distribution operations. In practice, a combination of financial and non-financial performance tools proves most beneficial.

In the specialized literature, greater attention has been paid to individual measurement than to a performance measurement system. Thus, Kearney posited that "logistics management performance measurement must focus on the quality of logistics services, adopt a forward-looking perspective, and emphasize the importance of the consumer" (Kearney, 1991).

Based on a review of the specialized literature, authors Chris Caplice and Yossi Sheffi (1995, pp. 61–67) identified six criteria for evaluating logistics performance. Accordingly, a high-performing logistics system must be:

- Comprehensive (highlighting the impact of policies on every relevant stakeholder; for instance, an evaluation system containing only financial indicators might not be comprehensive, as it overlooks the consumer's perspective);
- Cause-oriented (highlighting the causes of phenomena—the elements driving performance—rather than just final outcomes; using cause-oriented metrics enhances the visibility of long-term objectives);
- Vertically integrated (enabling every decision-maker to understand and implement the organization's overall strategy, and linking indicators at each level to the corresponding reward system);

- Horizontally integrated (encompassing all activities, functions, and departments involved in the logistics system, thereby fostering the integration of operations across the entire logistics chain);
- Comparable with other internal performance dimensions (the logistics activity measurement system is defined in alignment with other internal evaluation systems, so as to drive performance);
- Useful (it becomes easy for decision-makers to understand and use, and serves as a guide for the actions to be taken).

Driven by the need to create appropriate reward systems, innovative and high-performing logistics firms strive to deliver value to consumers. The most commonly used options for evaluating logistics value are (Lambert and Burdurogiu, 2000, pp. 1-17):

- a) Customer satisfaction arises when companies successfully fulfill their obligations across all components of the marketing mix—product, price, promotion, and distribution;
- b) Customer-added value is reflected in the consumer's desire to obtain quality products at good prices;
- c) Total cost analysis entails minimizing total logistics costs—including transportation, warehousing, inventory holding, order processing, information flows, purchasing, and production—while achieving a specific level of customer service, without regard for the impact on revenue;
- d) Segment profitability analysis considers the impact of logistics on both costs and revenue at every level: consumers, trade categories, geographic areas, sales territories, and products;
- e) The strategic profit model demonstrates how asset management influences asset returns through inventory reduction, increased sales, and the rapid market introduction of new products;
- f) Shareholder value is secured when a business meets or exceeds a cost of capital that accurately reflects the risk assumed by the investor.

An effective logistics system must ensure customer satisfaction through flawless order fulfillment and enable the achievement of performance indicators; it must prevent lost sales by ensuring products are constantly available in stock, improve the organization's liquidity and avoid financial losses by maintaining optimal inventory levels, and drive business profitability by controlling and reducing logistics costs.

Performance measurement systems include: traditional systems (focused on results), those based on business excellence self-assessment, and the Balanced Scorecard (used to formulate organizational strategy, mission, and objectives, as well as to define appropriate performance tools and measurement indicators). Another perspective categorizes logistics performance measurement systems as either traditional or emerging in the Table 1 (Butilca, 2012).

Table 1. A comparison of the two systems highlights the long-term superiority of emerging systems

Traditional performance measurement systems	Emerging performance measurement systems
Based on the traditional accounting system	Based on organizational strategy
Based on cost/efficiency	Based on values
Focused on results and financial performance	Aligned strategy, objectives, and performance measurement tools
Profit-oriented	Customer-oriented
Short-term oriented	Long-term oriented
Predominance of individual and functional tools	Predominance of team-based and cross-functional tools
Comparison against standards	Monitoring improvements
Evaluation as the goal	Evaluation and engagement as the goal
Hinders continuous improvement	Supports continuous improvement

Source: Butilca, D.A., 2012. *Performanța in Supply Chain Management*, Cluj-Napoca. [pdf] Available at: <doctorat.ubbcluj.ro/sustinerea.../Butilca_Delia_%20Ro.pdf> [Accessed 12 February 2026].

Numerous emerging performance measurement systems highlight the interest in the continuous improvement of logistics operations. Notable examples include the Balanced Scorecard (BSC), the Results and Determinants Matrix (R&DM), the Strategic Measurement and Reporting Technique (SMART), the Cambridge Performance Measurement Questionnaire (CPMP), integrated performance measurement systems, and dynamic performance measurement systems.

The development of global logistics networks necessitated the evaluation of logistics performance at the national level and the establishment of tools to enable cross-country comparisons. Consequently, in 2007, World Bank experts created the first country ranking based on the Logistics Performance Index (LPI), derived from a survey of 800 international freight forwarders and carriers. The index evaluates logistics performance and provides, for the first time, an analysis of disparities between countries and regions within this economic sector. Calculated between 2007 and 2023, the Logistics Performance Index is based on six criteria: customs clearance efficiency (simplicity and predictability of customs procedures), quality of trade and transport infrastructure (ports, roads, information technology), international shipments (ease of arranging competitively priced international transport), competence and quality of logistics services, tracking and tracing (ability to locate shipments), and timeliness (frequency with which shipments reach the customer).

4. Conclusions

The main issues arising in the measurement of logistics performance stem from: the lack of links between organizational strategy and the performance measurement system, the priority given to financial indicators, and the use of numerous, isolated, and incompatible measurement tools (Holmberg, 2000, pp. 847–868).

In the context of supply chain management, aspects such as ethics, diversity, the environment, human capital competencies in logistics (Croitoru et al., 2026), human rights,

fair trade, health and safety, and corporate philanthropy have been studied in relation to the logistics function.

Organizations often voluntarily focus on ensuring responsible supply chain management, recognizing the long-term benefits for their businesses.

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