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LOGISTICAL SUPPORT WITHIN A MODERN ORGANIZATION

Logistics is broadly applied to various spheres of life, for example in integrating with one another economic areas and in institutions. There are many factors that have an influence on development of logistics, such as changing IT systems and computer networks, due to which e-logistics has become popular. The paper analyses the role and application of logistics in modern organizations and the influence of logistic strategy on functioning those organizations.

Modern organizations work within the framework of a system that closely cooperates with the environment. Every part of the system affects the other and is dependent on the entirety, and the functioning of each part is determined by the ability to meet the environment's needs, which on the other hand, gives the reason for its existence and development. These are open systems, striving for integrity with the environment thanks to, among others, the increasing level of its self-organization and a more efficient "power supply". They receive information from the environment on the effects of their operation in the outer world (environment), as well as, changes occurring around the world. It serves as an inspiration for the systems and provides instructions to take corrective actions and to improve various processes or structures, and the means of achieving aims to increase the adjustability to the needs and demands of the environment. "Modern organizations – as Ilona Penc-Pietrzak emphasizes– must be characterized by their striving for higher effectiveness and adaptation ability through acquired competence relevant to attributes of the environment. It means, they have to become isomorphic organizations, where complexity of their internal structures matches the complexity of their environment systems, and they have to respond promptly to the environment changes by its own changeability, and thanks to its differentiation quickly and efficiently react to environment's demands"². An important instrument to achieve higher efficiency and effects of isomorphism by an organization (parallelism in the system of elements of the organization and the environment) is, and ought to be, logistics and a logistic system purposely created by logistics, facilitating not only the integrity of IT networks or coordination of activities between decentralized units, but also the elimination of parts of expenses, time, funds and efforts' losses.

During the nineties of the last century a very important turning point came – logistics in modern organizations ceased to be perceived as a major operational problem only. It was recognized as a strategic chance of an organization. As a result, an approach to

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² J. Penc-Pietrzak, *Planowanie strategiczne w nowoczesnej firmie*, Wolters Kluwer, Warszawa 2010, p.10.

logistic processes was developed and logistics drew closer to marketing. It was recognized that logistic activities were of key importance when increasing the efficiency of market strategies³. As the field of logistics advanced, new aspects of logistic management, apart from distribution, were taken into consideration: logistics of supply, production, transportation, storage, or logistics of environmental protection (ecologistics). Nowadays logistics is broadly applied to various spheres of life of numerous economic areas (e.g. euro logistics), integrating with one another, and to different institutions that aspire after better financial results or the efficiency of its activities and rationality of the applied processes. The role of logistics in forming and functioning within the integrating economic systems (e.g. of the European Union) is strongly emphasized. Organizations operating within these economic systems are connected with each other through IT means and are able to share information, skills and expenses, or make more effective use of specialist competencies. Due to the development of IT systems and computer networks e-logistics has become popular. Nowadays it is thought that logistics establishes the frameworks of systems that influence decisions about integrating transportation, supplies management, warehouses, handling with materials, packaging and information transfer. "Trade off" relations, that concern the costs and service from supplier for the client (receiver) occur between these activities.

Contemporary understanding of logistics as a science, as well as the art of practical action is systemic. It is understood as "an integrated system of forming and controlling the physical transfer of commodities and their informative considerations, aiming at possibly the most advantageous relations between the level of provided services and the structure of services' costs, while this system may be extended on any number of phases and links"⁴. Mirosław Chaberek is of the opinion that such an interpretation of logistics is limited. According to this author "the essence of logistics is the control of the transfer processes of all resources: active or passive (materials, information, resources, ready-made products, workers, capital etc.), within a company, between a company and markets of supply and sales, a network of enterprises – in logistic channels and chains. Therefore, the essence of logistics is the integration of these transfers in the exchange of time and space [...]. This integrity ought to be considered as a permanent, unattainable aim of logistics"⁵.

Logistics as a notion relating to the economy has three meanings:⁶

- Activities serving the transfer of objects and information (the transfer of resources, materials in the course, finished products and information relating to them);
- Field of management (transfer of objects and information management);
- Knowledge of the above-mentioned transfers and their management.

³ Cf. M. Ciesielski, *Logistyka w strategiach firm*, Warszawa 1999, p.10; *Podstawy nauki o przedsiębiorstwie*, collective work (Ed.) J. Lichtarski, Akademia Ekonomiczna, Wrocław 1999, p. 270.

⁴ Quotation by M. Chaberek, *Logistyka – dawna i współczesna, płaszczyzny praktycznego jej stosowania*, "Pieniądze i Więź" 1999, no.3, p.139.

⁵ Ibid, p. 140

⁶ A. Szymonik, *Systemy informatyczne w realizacji funkcji logistycznych*, Wyższa Szkoła Kupiecka, Łódź 2006, p.6.

Consequently, many processes are subject to logistics' requirements, and logistics itself acquires new dimensions, so it takes on a systemic character, and this results from the fact that it defines an organization as an open system variously connected with the environment of its operation. These connections are mutual and create the basis and the limitations of the space for economic activity or managing one's own business⁷. Logistics is defined in different ways since its different aspects and characteristics are emphasized by many authors using different criteria. One of the most frequently quoted definitions of logistics is the one of H. Ch. Pfohl, according to whom logistics "is the total of all activities, thanks to which forming, managing and controlling of moveable processes and processes of storage in a given network are located. When applying harmonization of these activities, a transfer of objects through the network ought to be started in order to make effective use of time and space"⁸.

The essence of logistics is integrating and coordinating the transfer of goods and information in the company and between companies, so that the market is effectively well-stocked from the perspective of expenses and time. The streams of transfer are the element which combines the phenomena and logistic processes. Managing these processes is a part of logistics, and can even be referred to as a logistic philosophy. Generally, the main objective of logistics is to make services such as goods and information available and provide customers with service in an optimal way, thanks to the use of the principle of comprehensive approach and suitable methods and ways of control over the processes⁹. Logistics constitutes knowledge and skills of managing the processes of transfer all sources within a company, between the company and the supply and demand markets so as it could integrate and coordinate the processes from the time and space perspective and therefore guarantee the best possible service for the customer. Customer service when it is fast, efficient, and economic at the same time is the keynote in logistic actions and processes, what in literature is referred to as customer logistics¹⁰. Customer service is in fact a combination of organization skills to satisfy customers' needs, requirements and expectations as to the time, place and the quality of the services offered, with the use of all forms of logistic activity such as transport, storage, transfer of information, operational actions and their cost and quality. In marketing providing the maximum possible standard of customer service, taking a particular level of costs into consideration, leads to developing a system of taking care of the customer. Developing a system with the organizational culture being developed and established, it is "oriented towards the customers' loyalty, which establishes the employees' attitudes and cooperation focused on the customer"¹¹. Obviously marketing and logistics differ, although they have a common

⁷ Cf. M. Christopher, *Strategia zarządzania dystrybucją. Praktyka logistyki biznesu*, A W „Planet”, Warszawa 1996, p.13

⁸ H. Ch. Pfohl, *Systemy logistyczne*, Biblioteka Logistyka, Poznań 2001, p.11.

⁹ Cf. M. Ciesielski, *Logistyka w strategiach firm*, PWN, Warszawa 1999, p.10; *Podstawy nauki o przedsiębiorstwie*, collective work (Ed.) J. Lichtarski, Akademia Ekonomiczna, Wrocław 1999, p.270.

¹⁰ Cf. D. Kempy, *Logistyczna obsługa klienta*, PWE, Warszawa 2001, p.15.

¹¹ J. Penc, *Zasady współczesnego marketingu. W kierunku marketingu klienta*, [in:] *Marketing i logistyka w zarządzaniu*, Szkoła Wyższa im. Bogdana Jańskiego, Warszawa 2009, p.54.

aim – to satisfy the customer's needs. Marketing itself cannot exist in isolation without planning, organizing and implementing logistic processes. "Marketing and logistics in real economic processes – as Tadeusz Wojciechowski emphasises – are closely combined and dependent on each other, they both are crucial to the functioning and development of companies and should be treated as an integrated and fundamental part of management"¹². Logistics influences the effectiveness of marketing activities creating conditions for better customer service. However, logistic solutions are useful not only in marketing, but also in the whole system of organizational activity, guaranteeing various processes to be coordinated and accomplishing the fundamental aims of company's marketing. Logistic activities allow not only to fulfill the customers' needs, but what is very important, fulfill the needs with costs not higher than at its optimum. It requires a broad use of logistics (the system of logistics), as the lack of effective logistic activities in all forms of the company's activity may belittle even the best marketing strategy¹³.

The systemic approach is of vital importance, as the basic logistic assumptions within a company are¹⁴:

- Systemic approach to the analysis and developing logistic activity,
- Complex approach to the logistic costs (within the system of keeping records and in the analysis),
- Aiming at a uniform managing of logistic activity.

Logistic processes and operations should be conducted globally within the framework of the logistic system of the company in order to eliminate the discrepancies in the logistic chain and coordinate the successful transfer of goods and information, as well as planning logistic activities and their integration into the organizational structure of the company. Such a system determines the way in which logistic processes take place between suppliers, the company and recipients of the technique of controlling logistic processes – transport, storing and the means to carry out logistic processes both technical and those concerning the personnel¹⁵.

Andrzej Szymonik defines the logistic system: "The logistic system of a company comprises such processes as: purchasing, managing supplies, storing, packaging and transport. Integrating the coordination of the processes which go through the logistic system of a company can be obtained through integrating the management of all logistic processes within the logistic subsystems: supply, production, sales and service"¹⁶. The logistic system defined that way precisely indicates that the tasks of logistics within an organization concentrate on operations such as the transfer of goods and information, which should be singled out and should undergo optimizing actions from the whole transfer's perspective. It is to avoid collision in various operations happening simultaneously and with more than one company being involved in the market tunnel. In

¹² T. Wojciechowski, *Integracja marketingu i logistyki*, [in:] *Marketing i logistyka w zarządzaniu*, Szkoła Wyższa im. Bogdana Jańskiego, Warszawa 2009, p.18.

¹³ Cf. H. Szulce, *Znaczenie logistyki w zarządzaniu marketingowym*, [in:] *Marketing i logistyka w zarządzaniu*, Szkoła Wyższa im. Bogdana Jańskiego, Warszawa 2009, p.35

¹⁴ M. Ciesielski, *Logistyka w strategiach firm*, PWN, Warszawa 1999, p.14.

¹⁵ M. Sołtysik, *Zarządzanie logistyczne*, Akademia Ekonomiczna, Katowice 2003, p.30.

¹⁶ A. Szymonik, *Systemy informatyczne w realizacji funkcji logistycznych*, Akademia Ekonomiczna, Katowice 2003, p.6.

practice it often happens that the decrease in the expenses in one sphere of the company's activity (e.g. transport, supplies economy, purchases) may cause the increase in some other spheres of organization's activities such as producing, storing, transport, etc. Developing (designing) a good logistic system of an organization and its implementation may eliminate business variance and improve conditions of cooperation. A logistic system ought to be planned in such a manner so that it provides the optimal flow of materials and ready-made products, as well as of related information in a given organization and its area. Logistic solutions within this system should concentrate around the central issue which is the system of creating values. The entire logistic chain (Supply Chain Management) consisting of suppliers and sub-suppliers, producers, distributors and 'internal' and external customers should serve creating values for a customer and provide horizontal and vertical integration of information and logistics. So that the value system can fulfill the requirements, it must be not only well organized, but also constantly checked and improved. There are several measuring techniques for that, e.g. measuring the information flow, measurement of the time of operations at process, of the level of resources and products being stored, of the accuracy of delivery schedules, of the time of order completion, of matching quality parameters, etc.¹⁷.

The logistical approach to an organization's activities is closely connected with management. At present logistics is its essential dimension. Management, generally seen as a set of actions (including planning and decision-making, leading, that is managing people and controlling them) directed at an organization's resources (human, financial, material and information) and performed with the aim to achieve an organization's objectives in an efficient way, always calls for coordination in obtaining material and information elements of activity, for their arrangement and for attributing them to certain types of the activity¹⁸. This coordination demands an overall solution concept (logistical undertakings in an organization and in its system of market partners). Thus, logistics makes it possible to harmonize the cooperation of subsystems in a company and the company's cooperation with an environment. It also facilitates efficient management, that is using resources in an intelligent way, without unnecessary wasting. Logistics plays an essential role in a strategic management. Making this concept real aims for such control of materials' and information flow so that structures and conditions of this transfer have a long-term character and significantly ease bringing success in the future. The success would be expressed in the following effects: time economy, optimizing costs and improving the level of a customer's service. Strategic objectives show the direction in which a company goes, they define the most important areas of activity (domains), profitability, shares in the market, possible diversification, etc.¹⁹ It means that they are strongly influenced by logistics. Therefore, some authors perceive logistics in a mainly strategic aspect. For example, Martin Christopher claims that "Logistics is a process of strategic management of supplying, transferring and transport of materials, parts and

¹⁷ Cf. P. Richter, *Zarządzanie łańcuchem logistycznym w niemieckim przemyśle stalowym*, „Organizacja i Kierowanie” 2002, no.2, pp. 105-110.

¹⁸ See R.W. Griffin, *Podstawy zarządzania organizacjami*, PWN, Warszawa 1996, p. 38.

¹⁹ See J. Penc, *Strategiczny system zarządzania*, A W "Planet", Warszawa 2001, pp. 139-142.

ready-made products (together with relevant documentation) within an organization, as well as through its marketing channels and that the process provides maximization of present and future profits and the most successful completion of orders.”²⁰

In a strategic view logistics may be thus an essential and effective instrument of improving or creating a new structure of a firm. The structure is a network of reactive contacts inside or around the company. The inner structure is formed by creating the company's relations with its employees and relations between employees themselves. The external structure is a result of the company's relations with its suppliers and consumers as well as with companies being involved in a similar activity²¹. In a company's structure there may be different logistic innovations and innovative logistic ideas. They may be created as a result of connecting an existing solution with a new method or an area of usage, which may significantly facilitate the process of creating and achieving by a company its strategic aims. Firms which meet strategic qualities of logistics apply strategic logistic management in which in an intentional and planned way they want to provide themselves with as harmonized as possible cooperation between logistic systems, and to use opportunities met in the environment better.

In this type of management, the following processes are considered²²:

- Implementing logistics into the structure of strategic planning in a company, which results from the logistics' function as a developed instrument of analysis to provide qualities;
- Formulating a type of logistics' strategy and its place (meaning) in the general company's strategy. What follows then is incorporating the logistics' strategy into the general strategy of the firm. The need for a more powerful connection of the logistics with strategic managing the company will be, the bigger its meaning in making strategic market decisions will be;
- Specifying the arrangements in the area of strategic aims and projects of this realization, as well as the strategic control of logistic planning, which makes it possible for logistic management to respond appropriately so that the strategy is consistently transferred and the control in a company is long-term and effective;
- Defining an adequate strategy of logistics' organization in a company, which would particularly involve creating the logistics' organizational structure appropriate to the strategy. This would consider criteria based on the function's structure, logistic processes and forming logistics as a process of developing organizations of companies.

Strategic logistical management is based on building a company's strategy, including a logistical one. A logistic strategy is a part of functional strategies (e.g. marketing strategy, company strategy, etc.), and is regarded as a measure that facilitates the principal aims specified in the general strategy of a company. A logistic strategy is a set of appropriately designed logistic solutions that provide right coordination of activities adopted by the general strategy, and facilitate the realization of the entire chain of delivering values.

²⁰ M. Christopher, *Logistyka i zarządzanie łańcuchem podaży*, WPSB, Kraków 1998, p. 11.

²¹ M. Ciesielski, *Logistyka w strategiach firm*, PWN, Warszawa 1999, p. 31.

²² S. Kummer, *Logistik im Mittekstand*, SPV, Stuttgart 1992, p. 31.

A logistic strategy ought to be consistent with a company's aims and general strategy and should be well adapted for the capabilities of an organization. The management is supposed to use logistics in order to utilize or apply owned resources to increase the attraction of a company, to fulfill its mission, or to improve its position in the environment. When drawing up a logistic strategy of a company the management ought to carry out SWOT analysis and assess elements such as:

- condition of the material base of logistics and possibilities of its modernization and diversification,
- organizational solutions and IT systems applied to a company's structure (in internal and external contacts of a company),
- professional qualifications of staff responsible for logistic functions,
- possibilities and needs for extending logistic cooperation with other parties,
- needs for mobilization and integration of all areas of a company operation,
- changes in general terms of activity (e.g. changes in a legal system, or on supply market, etc.),
- possible combinations of profit transfer and cooperation between logistic channels that increase the company's possibilities,
- opportunities to use data of specialized logistic services (service packages offered by logistic companies),
- an opportunity for using the "just in time" conception, and comprehensive management of time (lowering the level of freezing the working capital and increasing the pace of its circulation),
- changes and tendencies on the market of logistic services,
- an opportunity to apply a new logistic concept that changes the company's architecture (especially the inner structure, e.g. company modernization, simplification of structures, lean management, etc.)

The management ought to work out several variants of logistic strategy and choose the one that will facilitate the formulation of the most efficient strategy of operation and put it into practice. On the other hand, assessing the efforts involved in the formulation of strategy should be done pragmatically, and the outcome should provide an answer to the so-called fundamental issues: striving for higher internal efficiency and level of organisation, better adjustment to environmental changes. Nowadays these fundamental issues include activities increasing competencies of the company, and its ability to learn and become an intelligent organization to do profitable business easier (lower the expenses), but also to improve and increase the value of products, improve service and quality. Such an organization is able to learn from other organizations which similar sectors operate in a different, cheaper or more efficient manner, and are more socially responsible. While working out a strategy, the management ought to consider the competencies of its company - its qualifications, strong and weak points, and determine which competencies are crucial for clients' demands. The assessment of the competencies and striving for its improvement ought to be given priority, and be crucial for a company's strategy formulation. While assessing, one should take advantage of the experience and achievements of international partners. Comparing our company with an international one, we should take into consideration the quality and structure of offered services, the difference between nature of the two companies, main factors influencing a success; or at least we should specify which areas of our activity and actions undertaken within them

match each other, or in which field(s) we have the edge over the competing firm. We should also consider which foreign solutions can be used to our advantage, and how we should redirect our company to international operation. The answer to these questions shall determine in what situation our company is, what competencies are at its disposal, and towards which direction it should develop to ensure that the provided services match the European standards. The answer should also determine which areas of activity and **strategic intents**, that establish long-term aims and the formulation of company's strategy, should be invested in.

Logistic management, as any other (e.g. marketing or innovative), is not supposed to take effect if the company lacks current and prospective (strategic) information, which is understood as repeatedly processed data streams, so that people can use them to carry out the aims of their activity (e.g. taking decisions, expressing views, etc.). The information that the company possesses should be up to date, comprehensive and solid enough, and the company ought to care for the good condition of the data stream channels. The scope and details of the information shall match the decision-making powers according to the so-called inverted informational pyramid (the higher the level - the more cross-sectional and strategically important information is).²³

Every organization should have a well-established (and nowadays also computerized) IT system. Jerzy Lewandowski emphasizes that "to enable the transfer of information from the source to the user, we should establish a system capable of gathering, storing and transferring information within an enterprise. The systems refer to various branches of an organization and provide information on all sorts of managerial levels. The word *system* should be broadly understood, mainly as a channel or chain of transfer channels, visible or not, which serve as a carrier or a permanent storage facility of information. These channels may be a combination of equipment, staff and instructions"²⁴. The author continues: "the IT system must deliver information that will have a direct influence on the improvement of a product's or service's value. Information systems and systems composed of experts have an enormous influence on the achievement of the organisation's intended target"²⁵. Lewandowski points out even one important value of the information system, namely that such system must be an executive one, which not only delivers good information but also allows its independent retrieval²⁶.

In order to subsist and develop properly, each organisation should create an efficient information system, which would include information needed for operational activities and taking strategic decisions. In each organisation information has different, multiple functions therefore this system ought to be worked out properly in order to be well adopted to the organisation's specific tasks and activities and to be able to point out potential possibilities and limitations while solving a particular problem. Moreover information included in this system should not only be completed to a large degree and of

²³ See J. Penc, *Decyzje menedżerskie – o sztuce zarządzania*, C.H. Beck, Warszawa 2001, p.228.

²⁴ J. Lewandowski, *Projektowanie systemów informacyjnych zarządzania w przedsiębiorstwie*, Politechnika Łódzka, Łódź 1999, pp. 13-14.

²⁵ Ibid. p.15.

²⁶ Ibid. p.19.

good quality but also delivered in a most useful way to the management for realisation of organisation's tasks and aims²⁷.

System of information should result from analysis of organisation's needs. In this connection kinds of information should be specified in advance, its content and range depending on assumed company activity aims. Such system can work properly when the following items occur²⁸:

- identification of potential information receiver (data, news) in the organisation,
- choice of information (its types) and frequency demand for it,
- determination of communication channels (number, quality, time of flow),
- choice of technical means for transfer, storage and processing of information,
- collecting of reactions on gained information.

Depending on application of information there are following information models distinguished:

- **monitoring** – include registration and description of system conditions,
- **explaining** – include system structure and connections between subsystems,
- **prognostic** – include and describe future condition,
- **decisional** – allow somebody to take a decision and to determine action strategy.

Information systems should deliver useful information to the management staff of three levels: low (operational), medium (actual) and high (strategic). Everyday low level managers make operational decisions, which are very detailed and concern a relatively short period. These decisions are well setup. Medium level managers are engaged in the process of taking more actual decisions, which include a wider period of time and require much more knowledge and experience. These people use synthetic reports to the point of specific conditions of things and events in order to take decisions only setup partly. High level managers deal with decisions of strategic importance, often not setup (of stochastic character), which are long-term by nature. This means that every information system should be built as taking the content-related needs of management levels into consideration.

Lewandowski claims that „every information system should be future-oriented and strategic, including information in the field of scientific-technical progress, politics, economy, ecology, demography and social-economic policy. In this system it's not quantity of delivered information only but also quality and precision of information are essential. Quality of information can be ensured only by a well organized system implied as a integrated team of people, means and methods of collection, encryption, storage, processing, finding, communicating, updating and using data needed by the management staff in order to take decisions and to manage an institution. System effectiveness can not be limited only to information delivery, it must also secure a consequent analysis and the use of information in the company activity in order to chose a right way of action”²⁹.

²⁷ Cf. J.K. Shim, J.G. Singiel, R. Chi, *Technologia informacyjna*, Dom Wydawniczy HBC, Warszawa 1999, p. 21.

²⁸ A.P. Wiatrak, *Wpływ informacji na procesy decyzyjne w przedsiębiorstwie*, „Zarządzanie i Edukacja” 1997, no. 2-3, pp. 149-151.

²⁹ J. Lewandowski, *Projektowanie systemów informacyjnych zarządzania w przedsiębiorstwie*, Politechnika Łódzka, Łódź 1999, p. 27.

Every information system should enable the use of its resources by the authorized people, prevent access to information by not authorized people, and guarantee only access of authorized people to a specific kind of information stored in this system. Security policy must apply to the whole company and to every participant separately. Understanding of organization way, presentation and possibilities of use the data bases becomes nowadays one of the most important conception, which should be taken into consideration by the management staff.

LOGISTKA W NOWOCZESNEJ ORGANIZACJI

Logistyka znajduje zastosowanie w wielu zróżnicowanych dziedzinach życia, w tym w integrujących się systemach gospodarczych i w instytucjach, a na jej rozwój wpływają różne czynniki. Wśród nich wymienić można dynamicznie zmieniające się systemy informatyczne i sieci komputerowe, które między innymi umożliwiły rozwój e-logistyki. Artykuł omawia rolę i zastosowanie logistyki we współczesnych organizacjach oraz wpływ strategicznego zarządzania logistycznego na funkcjonowanie tych organizacji.