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LOGISTIC PROCESSES AND POTENTIALS IN A VALUE CHAIN

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ABSTRACT. Creating the appropriate value added, construed as the desired level and structure of benefits for the customer and the company, requires proper planning and designing of the overall structure of processes and operations being part of the value chain. In such a value chain, the key role is played by logistic processes which condition the achievement of the value added both for the customer and the company.
In the field of logistics, there are a lot of value added creation potentials, in the light of continually rising customers' requirements and competitors' behaviour. Making strategic decisions with regard to logistics, particularly in view of a long-term development of logistic processes and structures, should lead to continuous identification and development of logistic potentials for creation of value added for the customer and the company. These potentials may significantly contribute to a continual expansion of the logistic services range offered by the company, which in turn may lead to meeting customers' needs more effectively than before.

Key words: value added, value chain, logistic processes, logistic potentials.

INTRODUCTION

Both in theory and practice of management, more and more attention has recently been paid to process-oriented management concepts, which is a consequence of the successive abandonment of concepts focusing on particular autonomously perceived functions and areas of business operations. The company's structure as an open system is designed on the basis of numerous closely interrelated processes, construed as the key dynamic subsystems of the company. The processes do not have to be contained within the company's boundaries, but they may also incorporate sections of external processes [Mikus 2003].

Logistic processes offering products and services (logistic services) expected by customers may be recognised on the basis of the value chain concept. The concept assumes that any particular actions being part of the processes implemented by a company should lead to the creation of value added for both customers and the company itself.

As companies have to search for new possibilities of improving their competitive and/or cooperative capabilities, a more and more significant role is attributed to identifying the possibilities of comprehensive and long-term shaping of new potentials for creating results and values, which ensure a permanent growth of efficacy and determine the market success of the company. Making strategic decisions in logistics should, among other things, make it possible to systematically discover and create new potentials for expected effects and the company's market success.

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The purpose of this article is to identify logistic processes and potentials which determine customer value added creation to meet the customers' preferences and to gain the value added for the company.

THE IDEA AND STRUCTURE OF THE VALUE CHAIN

In a general perspective, each value chain represents the process of "adding" value to the product, starting from activities connected with purchasing raw materials, materials, components etc., through production, logistic operations, marketing actions, to rendering extra services to customers [Koźmiński A., Piotrowski W., 1997]. The key task is to identify the most important "carriers" of value added creation, which are successive actions connected with creating and delivering the customer value and gaining value for the company itself. The value chain makes it possible to decompose the processes into individual activities performed by the company.

The value added chain concept developed by Michael Porter includes two groups of activities - primary activities which directly contribute to the value added creation (procurement logistics, production, distribution logistics, marketing, additional services) and support activities connected indirectly with value creation (development of infrastructure, human resources management, technology development, centralized purchasing) [The value chain concept is widely discussed in both Polish and foreign literature. The original idea was described in: Porter M., 2006]. According to Michael Porter, the greatest importance lies in optimal organization of all the activities performed by a company in the process of supplying the market with their products. As a result of performing the activities, a measurable value is created for both the customer and the company [Koźmiński A., Piotrowski W., 1997]. Therefore it may be stated that the value chain is a concept that describes integrated processes resulting from business undertakings which are interrelated, and where each undertaking adds up a certain value to the final product [Kuhn A., Hellingrath H., 2003].

In order to create a proper value added, a company should strive at continuous development and honing their competencies. The STRATEGOR group distinguishes three basic areas of a company's competence in connection with the value chain [STRATEGOR, Zarządzanie firmą, 1995]:

- economic competence,
- managerial competence,
- psychological competence.

Activities which make up the value chain are focused on meeting customers' needs (solving their problems) either directly or indirectly [Hutt M., Speh T., 1989]. Direct influence is exerted by the logistic activities connected with distribution, marketing activities and activities related to rendering additional services for customers. Logistic activities connected with procurement, production activities and all support activities have an indirect impact on meeting customers' needs.

The value chain as a set of activities performed by the company should therefore first of all enable the creation and delivery of the value expected by customers. When creating the customer value, it is necessary to stick to the principle that customers' interest is of overriding importance and the customers' preferences and expectations should be the key criterion in business management. This requires precise identification of activities that condition offering the basic usabilities (usability of form, usability of possessing, usability of time and place) for customers. Thus the company is obliged to define a customer value proposition which is unique compared to competitors and which will ultimately be offered to customers in order to solve their problems. When developing a customer value proposition, the company should take into account not only customers' preferences and expectations, but also its own capacities in the form of resources and skills being at the company's disposal, as the capacities are indispensable for developing the company's business offer that includes an adequate - in relation to the customers' expectations - composition of logistic services put on the market.

The customers' needs or solving their problems are the basic determining factors in the value chain whose elements (parts) are respective value creation units. The integrated flows of goods and

information on the company's scale and in relations between different companies may be reflected by a process chain model which was developed on the basis of the theory of flows system and process chains [Wirth S., Baumann A., 2001]. This kind of an overall model of a process chain displays and integrates process subchains starting from identification of customers' problems through various respective stages of indirect and direct value creation up to positioning of desired products on the market and resolution of the aforementioned customers' problems. The model thus comprises the total circulation of the product.

The construction of the entire value creation chain is, to a large extent, influenced by logistics. The key position of logistics in the value creation chain structure is connected with the fact that logistics contributes directly to creating potentials for the integrated value chain services by means of efficient management and development of effective flow strategies.

Hence it may be stated that logistic processes and activities that take place within the value creation chain produce a number of usabilities for customers, and implementation of the logistic thinking and acting principles leads to the concept of the logistics-oriented value chain [To learn more about the logistics oriented value chain concept, see: Blaik P., Matwiejczuk R., 2008].

LOGISTIC PROCESS STRUCTURE WITH REGARD TO VALUE CREATION

The process category may be defined as an integrated purposeful system or chain of activities which is, at the same time, a result of integrating and structuring of activities, as well as an object of integrated management. The point of the process is to transform input factors and elements into output factors and elements with a higher value added for customers. During the transformation, each object undergoing the process increases its value, which is also accompanied by transformation costs connected with individual objects in a given structure and controlling [To learn more on the idea of the process, refer to: Blaik P., 2001].

Irrespective of whether the subject of research regards the development, production, marketing or logistic processes, the processes may be treated as a recurring and determined course of actions which is customer-oriented, specified by materials and information flows which permeate the boundaries of individual areas of the company's business activity, comprising the primary and secondary activities which create value.

Table 1 presents the classification of logistic processes divided into different categories in accordance with the value creation criterion in the flow systems management.

The primary processes which are directly connected with the customer and which directly create (increase) the value added, comprise main processes and auxiliary processes [Schuderer P., 1996]. The characteristic feature of the main processes is that they originate from contacts with customers on the market, where they also end. These are, in particular, those processes that create and deliver appropriate value and benefits for customers, in the form of products and services suitable for the customers' needs and for which the customer is ready to pay an appropriate price. The most important processes in this regard include those of designing and creating new products and services, the customer service process, the process of obtaining and fulfilling orders, the process of cost minimisation in a supply chain leading to decreasing the price of the business offer which will solve the customer's problems and the costs of transporting, warehousing, reloading, packing and marking of merchandise.

The other group of primary processes involves auxiliary processes which are triggered by main processes. These are, for example, the processes of delivering, adjusting and preparing materials in specified areas of materials flows or pre-production processes and assembly processes. Auxiliary processes are necessary for the existence of main processes and, in terms of time, they are slightly less connected with customers' wishes than main processes.

Secondary processes play a supportive function to the primary processes and are characterised by an only indirect connection with customers. By supporting the processes which directly create the value added, secondary processes indirectly contribute to value increase.

As for the processes specified as third-rate, these are the processes which take place far away, in terms of both hierarchy and time, from the value added creation processes. Although they are considerably separated from the primary processes, there may be some occurrences of relative connections with customers. Therefore, these processes are conditionally related to value added creation.

Table 1. Structure of logistic processes with regard to their impact on value added creation
Tabela 1. Struktury procesów logistycznych w zależności od ich wpływu na tworzenie wartości dodanej

Processes and value added change	**Logistic processes and their diversity with regard to connection to the customer**
Processes that create value directly	**Processes characterized by a direct and close connection with customers – primary (basic) processes:** – process of designing and marketing new logistic products and services, – process of winning customers by means of communicating with the market, – process of obtaining and fulfilling orders from customers, – process of providing the logistics customer service – process of transporting, reloading, warehousing, packing and marking the merchandise, – process of costs rationalization in the supply chain leading to decreasing the price of the supply offer that will solve the customer's logistic problems.
Processes that create value indirectly	**Processes characterized by an indirect connection with customers – support processes:** – analysis and forecast of the logistic situations on the market, – recognizing the customer's preferences and expectations with regard to logistic services, – positioning the value on the market and supporting it by means of logistic solutions, – developing logistic strategies, – developing a set and structure of components of logistics-mix, – preparation of the product and service offer, – identification of goals and developing the assumptions for logistics customer service, – analysing the customers' orders and providing instructions concerning the orders fulfilment, – controlling the product flow by developing the course of processes of transporting, reloading, warehousing, packing and marking the merchandise, – ensuring the quality of the service provision process, – ensuring and development of the staff qualifications, in particular the competence in logistic processes designing and implementation.
Processes relatively connected with value creation	**Processes showing a relative (conditional) connection with customers – third-rate processes from the point of view of value creation:** – research and development of new products and services, – research and development of logistics infrastructure, – securing the value creation capability (service provision), – developing the IT, – waste management, disposal of packaging and permanently damaged goods, – securing the financial aspects of logistics (customer accounts).

Source: developed on the basis of: Schuderer P., 1996.

Although the principle of process-oriented logistics may derive from the principle of systemic approach and from the principle of flow optimisation, it is particularly distinctive in practice as a tendency to institutionalise logistic activities on the basis of function optimisation. The act of

binding logistic activities within a company and including them fully into an integrated value chain may be considered to be an action equivalent to value creation, which can make an original contribution to an increase in customer value, as well as to improving the situation regarding costs.

LOGISTIC POTENTIALS AND DETERMINANTS OF EFFECTS AND VALUE CREATION

A source of a long-term market success for a company may lie in the so called potentials of expected effects and value creation, which present the company's capabilities and readiness to pursue some specified goals more effectively than its competitors. Ingrid Göpfert [2002] underlines the long-term nature of development and sustainability of a company's capabilities. These capabilities of the company or of the value chain that exceeds the company boundaries make it possible to improve the competitive position of the company on the market by means of, among other things, creating and offering a value added which is more advantageous compared to that offered by competitors, and therefore they constitute, as Göpfert states, a long-term source of benefits. The logistic potentials of effects and value creation may hence be defined as long-term capabilities for rendering services in the flows system and the market system, which stabilise and enhance the competitive position of the company (group of companies).

The classification of possible potentials of expected effects and the company success, as well as the internal and external determinants that shape their structure are presented by B. Mikus [2003] as:

- products and markets potentials,
- human potentials,
- technical potentials,
- information potentials,
- structural potentials,
- financial potentials.

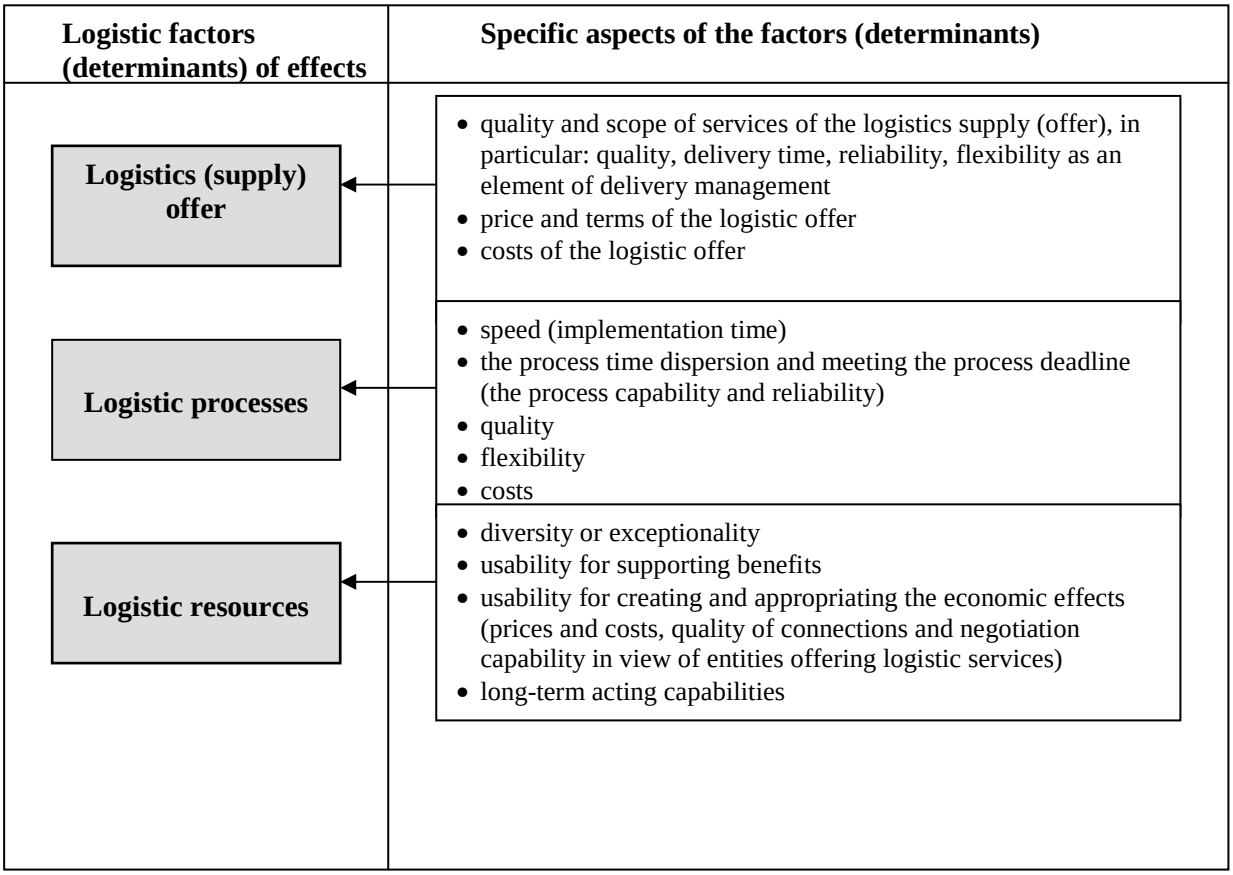
As for the logistics, a detailed structure of determinants of effects and value creation, together with their specific aspects are presented in Fig. 1 [Blaik P., Matwiejczuk R., 2008].

The area of logistics supply (logistic services) presents the structure of detailed aspects of this determinant of effects, which cross-sectionally reflects the quality and its various possible elements (elements of delivery management), as well as prices and terms of the logistic offer and the costs arising in connection with preparing the logistics supply. Similarly to quality, prices and terms of the logistics supply are also objects of perception for customers and they affect customer satisfaction.

The factor that determines the aforementioned features and conditions are costs arising in connection with preparing the logistics supply of services, which constitutes a significant carrier of logistic potentials of effects. The costs are not interpreted here as quantities shaped in a long-term perspective in a wider and wider scope in the process of strategic decision-making. Therefore, it is important to secure (in a long-term perspective) the proper quality of costs, along with appropriate structure and flexibility. Logistics supply with its relevant properties may, on the one hand, contribute to creating more benefits in terms of competition compared with the current market rivals, on the other hand, it may facilitate enhancement of the barriers to market entry and thus make it easier to defend from any potential new competitors. These properties may be a premise for expected effects also with regard to logistics supply of services offered outside the company.

In the second area of the structure of logistic determinants of effects in a company, we can find the properties of logistic processes which contribute to gaining benefits in terms of competition with regard to logistics supply implementation, and they as such may condition their influence on the expected effects and value creation, in the form of effective fulfilment of requirements regarding the

proper level of service: time, reliability, quality and flexibility and, in addition, process costs which arise in connection with that.



Source: developed on the basis of: Mikus B., 2003.

Fig. 1. Logistic determinants of effects and their specific aspects (features).
Rys. 1. Czynniki logistyczne wpływające na efektywność i ich cechy charakterystyczne.

Significant effects of appropriate application of the time factor show themselves first of all in the form of process implementation speed measured e.g. as the runtime or the run cycle length. Obtaining effects connected with shortening the runtime will be possible when the delivery time and keeping deadlines (delivery reliability), and delivery flexibility, are ensured on a level justified in terms of economics and customers' expectations. Therefore, processes which are characterised by usually small runtime are possible determinants of effects.

The third area of structuring the logistic determinants of effects and value creation is marked by tangible, intangible and human resources and logistic competencies. The enumerated dimensions of resources and competencies constitute determinants of expected effects when they provide some specified premises for obtaining the company's long-term effects in the form of: exceptionality, high qualifications for supporting the benefit structure, capability to create and take over economic benefits (profits), as well as long-term capability to defend the market position. At the same time, the point is also to ensure appropriate qualifications to enhance the benefit level, to implement the basic goals of the process by means of existing resources and at a high quality level, to achieve a high level of customer satisfaction and gain an advantageous position with respect to costs. Due to the capabilities to create and take over economic benefits it will be possible to provide for a possibility to obtain some additional income, which will depend on advantageous purchasing prices or resources costs. The capabilities, interpreted as the resources qualities, depend on the properties of the companies that utilise them and markets where they function.

CONCLUSIONS

The key significance of logistics in the value chain concept is based on the determined capabilities of producing and offering the value added which is expected by customers, which are inherent in logistic processes, and effects connected with logistic potentials. Logistics constitutes an integrated process which focuses on meeting customers' needs (solving customers' problems), by means of offering a structure of logistic services in accordance with their preferences.

In the course of the discussion above, we have shown to a large extent the diversity of possible indications of meeting logistics goals, which may be assigned to different areas in the above presented structure of determinants, which contribute to the ensuring and obtaining market and economic effects. This should take place in each case in the area of management of the entire logistic system, as well as individual logistic subsystems.

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LOGISTYCZNE PROCESY I POTENCJAŁY W ŁAŃCUCHU TWORZENIA WARTOŚCI

STRESZCZENIE. Tworzenie właściwej wartości dodanej, rozumianej jako pożądany poziom i struktura korzyści dla klienta i dla przedsiębiorstwa, wymaga odpowiedniego zaprojektowania całościowej struktury procesów i czynności składających się na łańcuch tworzenia wartości. W tak rozumianym łańcuchu tworzenia wartości kluczową rolę pełnią procesy logistyczne, warunkujące realizację wartości dodanej dla klienta i dla przedsiębiorstwa.
W sferze logistyki tkwi szereg potencjałów tworzenia wartości dodanej, w świetle stale wzrastających wymagań klientów oraz warunków i sposobów postępowania konkurentów. Podejmowanie strategicznych decyzji w sferze logistyki, związanych zwłaszcza z długofalowym kształtowaniem procesów i struktur logistycznych, powinno prowadzić do permanentnego odkrywania i rozwoju logistycznych potencjałów tworzenia wartości dodanej dla klienta i dla

przedsiębiorstwa. Potencjały te mogą w istotnym stopniu przyczyniać się do stałego wzbogacania oferty świadczeń logistycznych realizowanych na rzecz klientów, a poprzez to do skuteczniejszego zaspokajania ich potrzeb i oczekiwań w stosunku do oferty rynkowej przedkładanej przez przedsiębiorstwo.

Słowa kluczowe: wartość dodana, łańcuch tworzenia wartości, procesy logistyczne, potencjały logistyczne.

LOGISTIKPROZESSE UND POTENZIALE IN DER WERT-SCHÖPFUNGSKETTE

ZUSAMMENFASSUNG. Die Bildung eines richtigen Mehrwerts als gewünschtes Niveau und Vorteile für den Kunden und das Unternehmen erfordert eine entsprechende Gestaltung der ganzheitlichen Struktur der Prozesse und Aktivitäten, die die Wertschöpfungskette bilden. Die Schlüsselrolle in der so verstandenen Mehrwertbildung spielen Logistikprozesse, die die Bildung des Mehrwerts für den Kunden und das Unternehmen voraussetzen.
In der Logistik stecken mehrere Potenziale der Mehrwertbildung in Hinblick auf die wachsende Kundenanforderungen sowie die Bedingungen und Handlungsweisen der Wettbewerber. Die Entscheidungsfindung auf der strategischen Ebene in der Logistik, die insbesondere mit einer langfristigen Gestaltung der Logistikprozesse und Logistikstrukturen zusammenhängt, sollte zu einer permanenten Entwicklung logistischer Potenziale der Mehrwertbildung für den Kunden und das Unternehmen führen. Diese Potenziale können zur Erweiterung des Spektrums der Logistikleistungen und dadurch zu einer mehr effizienten Erfüllung der Kundenanforderungen gegenüber dem Angebot des Unternehmens erheblich beitragen.

Codewörter: Mehrwert, Mehrwertbildungskette, Logistikprozesse, Logistikpotenziale.

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