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## **COSTS ASPECTS OF CREATING 3PL LOGISTIC OPERATORS' OFFERS**

**Abstract.** The rise in the demand for comprehensive logistic services causes that the 3PL sector finds itself at present in the phase of intense development, undergoing certain simultaneous transformations. It becomes more and more competitive, and the range of services offered by logistic operators still grows. The article offers a comparison and analysis of the logistics operator presented to selected customers, putting the emphasis on the identification of price differences in personalized offers of cooperation. Furthermore flexibility of 3PL subjects their ability to individualize the offer and to adapt it to client's specific requirements will be examined.

**Keywords:** Costs, logistics operator, 3PL, customization offers

### **1. Introduction**

Globalization processes cause that enterprises operate in a more and more competitive environment. In order to meet growing requirements of customers and hold position in the market, entities concentrate their entire attention and available resources in crucial areas of their activity, and other functions, such as logistic actions, hand over to outside companies, using outsourcing (Choy and others, 2008, p. 1998). Amongst logistic contractors logistic operators (third-party logistics providers – 3PL) play a main role, which can carry out all logistic processes of the order-giver, or only their chosen part. They offer a whole range of logistic services, starting from storing and transport, through managing distribution, the consolidation of cargoes and the sequence of additional services, until managing the whole chain of suppliers (Patterson and others, 2010, p. 765).

Enterprises internalizing their activity very willingly use services of logistic operators. Entering foreign markets they establish the cooperation with subjects of 3PL sector in order to reduce the risk connected with investing in logistic infrastructure (warehouses, means of

transport etc.). Not having sufficient knowledge about local conditioning, they count for experience of logistic operator (Shi and others, 2016, p. 189).

Rationality of using 3PL services grows along with the gap between what enterprises want to carry out, and that what they are able to do independently (Hofenk and others, 2011, p. 168). Among primary benefits received from the application of the logistic outsourcing, apart from the possibility of focusing on the main activity, it is possible to mention, for instance, a reduction of costs of logistics, shortening the cycles of the implementation of operations, reaching the highest level of the customer service, better forecasting of demand, increasing the percentage of correctly fulfilled orders, the improvement of functioning of logistic information system and lowering investments' outlays (Briggs and others, 2010, p. 640; Coyle and others, 2010, p. 693).

The rise in the demand for comprehensive logistic services causes that 3PL sector finds itself at present in the phase of intense development, simultaneously undergoing certain transformations. It becomes more and more competitive, and the range of services offered by logistic operators still grows. Its base still constitutes actions associated with transport and storing. However leaders of the industry stand out with the entire sequence of services creating value added services such as: consolidation of cargoes, tagging of products, packing, creating promotional sets, stock control, cross-docking, handling of returns of products, managing orders, or IT solutions for logistics (Basligil and others, 2011, p. 12730; Shi and others, 2016, p. 189). In relation to such an extension of the range of services, calculating offers of logistic operators is a more and more difficult task. While helping customers to optimize the costs of logistic actions, they should also take self-interests into consideration, because their purpose, in accordance with the principles of the business activity, is achieving profits. So finding the so-called golden mean, which will lead to the satisfaction of both sides, is necessary.

Indication of cost aspects of creating offers of logistic operators is the purpose of this article. The main focus will be placed on the identification of price differences in individualized offers of the cooperation introduced to customers. Such analysis will allow to point out, how rates for the same services depending on recipients of these services can differ. For that purpose offers of the logistic operator presented to chosen customers will be compared. Furthermore flexibility of 3PL subjects their ability to individualize the offer and to adapt it to client's specific requirements will be examined.

## **2. 3PL operator as the basic group of logistic services suppliers**

Simply, it can be defined that the logistic operator is the subject, providing comprehensive logistic services. Comprehensive logistic service includes both forwarding-transport activities and storing, as well as cross-docking, completing, laminating, co-packing and sequence of

other improving duties (Rydzkowski, 2004a, p. 12; Kot, 2015, p. 388, Nowakowska-Grunt, 2011).

In the literature more accurate definitions of logistic operators and "third-party logistics" notion can be found, which for simplification, is being identified, by many, with a logistic operator. Lieb however, name third-party logistics the exploitation of the outside company for carrying out logistic functions, which traditionally were carried out in the organization. In addition action taken by the contractor can include the whole of logical process, or only its part (Basligil and others, 2011, p. 12730). Bask, however, thinks that under the term 3PL hide relations between the participant in the supply chain and logistic operator, where services (from basis up to adjusted to the client) are offered in short- or long-term perspective of cooperation, within aspiration towards effectiveness and efficiency (Bask, 2001, p. 474). Similar approach is that of Murphy and Post (1998), who yet narrowed them to individualized and long-term relations. Berglund, van Laarhoven, Sharman and Wandel (1999), however, claim that third-party logistics are actions conducted by logistic service provider on behalf of the shipper, embracing at least the management and the realization of the transport and storing, in addition actions associated with the stock control, the identification and tracking parcels can also be included, causing creation of value added services, as well as managing the supply chain. These authors claim that in order to talk about 3PL, the period of the cooperation cannot be shorter than one year (Marasco; 2008, p. 128).

Logistic contractor (for the simplification 3PL terminology was accepted) was at first defined as: "organization, which carries out actions on behalf of the shipper, which at least contain storing and transport" (van Laarhoven, Berglund, Peters; 2000). At present a wider definition of this issue is being dealt with. Authors describe a logistic operator i.a. as:

- "external supplier, which make all or part of logistic functions of the company" (Coyle and others, 2010, p. 691),
- "special external supplier undertaking, as part of his basic market activity, the organization and/or the realization of all or part of logistic functions of enterprises, for which they constitute secondary market activity" (Miklińska, 2008, p. 214),
- "individual of strongly extended structure, dealing with shipping activity, storing, the service of supplies, transport and the service of cargoes for customers, as well as providing marketing and financial services associated with the realization of the contract" (Rydzkowski; 2004b, p. 34),
- wide-profile enterprise offering shipments, as well as domestic and international complex logistic service" (Jeszka, 2009, p. 63),
- "special subject, which provides comprehensive services, into which shipping, transport, and storing and the wide range of so-called value-added services, i.e. services raising the value of the products can be included" (Rydzkowski, 2009, p. 227),
- „external service provider, which manages, controls and realizes logistic actions on behalf of the loader" (Hertz, Alfredsson, 2003, p. 139).

All definitions confirm that 3PL operator's basic aim is to provide logistic services. To get the value added from outsourcing, 3PL companies must well understand, what their customers (also potential customers) require and to elaborate their strategies in order to cope with these expectations (Aktas and others, 2011, p. 835). One of the most important success factors is an adjustability of the offer to expectations of clients. Generally, in this respect it is possible to divide logistic contractors into two types: so-called dedicated contractors and multiple contractors. Entities of the first type adapt their services closely to requirements of the customer. Multiple contractors, however, are set to the service of many customers, what results that their offer is more universal (Jeszka, 2009, p. 65).

Hertz and Alferdsson (2003) singled out four types of suppliers 3PL on account of their ability to solve problems and the ability to the adaptation to needs of customers. Standard 3PL suppliers provide relatively straight, standardized services, as storing and distribution. Customer adapters seize existing actions of the customer to more effectively carrying them out, but in fact are not developing services; it is possible to treat them as the part of the organization of customers. They base their functioning on very few close customers. Service developers offer advanced services having value added services, often combine with a few standard services, which can be linked in harmony with requirements of the customer – it can be services diversified in terms of the customer e.g. peculiar packages, cross-docking, tracking parcels. Customer's developers (called also logistic integrators, 4 PL, Lead Logistics Providers – LLP). These are strongly integrated with a small number of customers, often control whole of their logistic operations and share the risk in the supply chain. They constitute the highest current form of the development of logistic operators (Wagner, Sutter, 2012, p. 947).

As is was already noticed, an ability to meet requirements put by clients is one of basic factors of the success of logistic operator. In the response to clients' needs logistic operators can accept one of the following means of acting:

- standard, stiff price list for determined services – this attempt is usually administered by contractors serving the substantial amount of customers commissioning the transport of little parcels; the cooperation in this case usually has occasional character,
- refusal of the completion of the specific service – its reason is the lack of physical abilities of the completion of the service, or a reluctance to become involved in the given activity,
- fulfilling requirements of the customer – this most frequent determination applied by logistic operators; in this case the operator confines himself only for satisfying client's expectations, not going beyond them,
- meeting expectations of the customer at offering additional services, which were not required by customer, which can contribute to the improvement of its market situation (Różycki, Bartosz, 2000, p. 101-102).

### 3. Creation of price offers of logistic operators

The price is one of the most important factor of the logistic operator choice. Of course, this choice is also affected by other factors, such as the quality of provided services, relations, flexibility, professionalism, financial situation, location or reputation (Aguzzoul, 2014, p. 75). However for many enterprises the price still constitutes a crucial premise of choice of the contractor. It is analyzed in the context of services included in it such as: transportation, loading or insurance. Before subjects from 3PL sector stands challenging such establishing the price for services, so that on one hand encourage customers for the long-term cooperation, and on the other reach the planned level of profit. This challenge grows along with increasing of the range of available services, as well as growing requirements of customers.

Prices of logistic services are usually set by one of two essential ways: conventionally or with rates. The first way consists in fixing every price for the operation of the service by way of negotiations between the operator and the customer. The rate system is based on the schedule of prices for given services published in widely available rates (Długosz, Głodek, 2005, p. 89). Figure 1 presents a simplified diagram of price-creating process that deals with transport services and with no major contraindications can be referred to all logistics services.

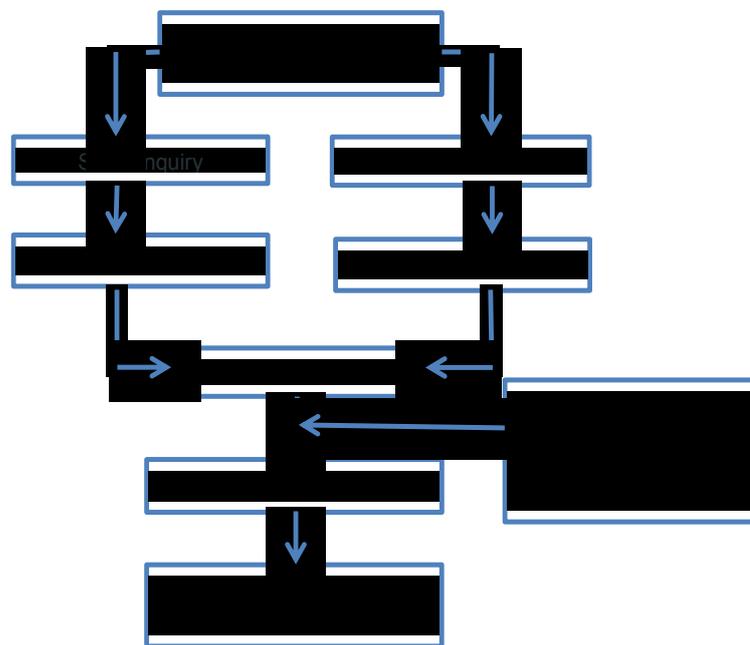


Fig. 1. Structure of the price-making process of transport services

Source: Own study based on: Stajniak M., Hajdul M., Foltyński M., Krupa A.: *Transport i spedycja. Podręcznik do kształcenia w zawodzie technik logistyk*. Biblioteka Logistyka, Poznań 2007, p. 139.

The rate system has the biggest application at transport services, where one can assume different forms. Most often the price lists are come across with and their base is a rate for

loaded kilometer (at entire-vehicle transports, the price is made conditional on the distance), freight tables (the price is made conditional on the weight and the distance), palette freight tables (created under the angle of the specific customer, the price is being affected by a distance and a number of packages on the consignment note), flat-rate palette price lists (the price depends only on the quantity of packages sent to one recipient. The distance is not significant, but to the purpose of proper enumerating the rate a need to calculate the average distance of transports on the base of customer data exists), weighing flat-rate price lists (the price depends on the weight of the parcel – solution applied mainly in companies specializing in transport of packets and packaged parcels (Długosz, Głodek, 2005, p. 92-97). It is not, however, ruled out the use of price lists created on other grounds, e.g. shipment weight and the number of pallets in the shipment. Therefore pricing should be determined individually for each customer, because doing calculation must also take into account the distance over which the client intends to dispatch the consignment (Table 1).

Table 1

Exemplary price list of transport services [EUR]

Weight	Number of pallets in the parcel				
	1	2	3	4	> 5 > 10
-100	31.70	31.10	30.10	28.70	27.40
-200	33.10	32.70	31.40	30.70	29.70
-400	34.60	33.90	31.70	31.10	29.80
-600	37.10	35.20	34.60	32.90	31.70
-800	39.30	37.70	37.10	36.10	33.60
-1000	41.50	40.80	40.20	37.70	34.60
-1200	43.30	42.40	41.50	38.30	34.90

Source: Own study based on data bidding of chosen logistics operator.

In most cases logistic operators have price lists of diversified configurations, closely adapting them to specific customers. Prices in them are dependent on such factors as even: the type of provided services, the kind of goods which will be an object of logistic actions, as well as expectations and possibilities of the customer (Długosz, Głodek, 2005, p. 88).

### 3. Case study

Above mentioned considerations caused following question: how much rates in such price lists can be diversified and in what way, generally speaking, these price lists can differ depending on the customer. In order to answer them, offers of X logistic operator for a few clients were analyzed. Actions connected with transport and storing constituted the base of offers – the part of customers made use of services in both areas, and part only in one. For some clients the offer was broadened for some additional services. In all offers the sequence of notations conditioning the cooperation and realization of individual agreements

was made (mainly about dimensions of transported and stored cargoes, periods of payments or the possibility of change in bids during the duration of the contract). Customers act in different industries: automotive, tyre, petrochemical, clothing (sewing uniforms), there are also other logistic enterprises among them.

Comparing offers in the transport activity causes the greatest problems. It results from the fact that for each of the three customers, using this type of services, completely different kind of price lists have been created. The most extended price list was presented to customer A. It is connected with transport from the magazine of the operator to recipients and prices are made conditional on the weight of the parcel, in addition one should add fuel charge and road charge to them, which are being periodically updated. Base price list (without including extra charges) were presented in Table 2.

Table 2

Price of transport service for A client

	Weight [kg]	Price [EUR]		Weight [kg]	Price [EUR]
Parcel	10	4.75	Euro palette	100	30.50
	20	5.95		150	31.45
	30	6.65		200	32.40
	40	7.85		250	33.35
	50	9.05		300	34.50
	60	10.50		400	36.45
	70	11.65		500	38.35
				600	45.95
		700	47.85		
		8000	49.75		

Source: own study based on data bidding of chosen logistics operator.

Prices described in the table rise digressive, so the higher weight of the parcel is, the lower it's the cost per 1 kg will be.

In relation to the fact that customer A operates not only in Poland, but also in neighboring states (Czech Republic, Slovakia, Lithuania, Latvia and Estonia), price lists of supplies were prepared for individual countries. In case of Czech Republic and Slovakia, where supplies are being carried out from the domestic magazine of the distributor prices depend on the weight of the parcel and the distance. While in case of Lithuania, Latvia and Estonia, where supplies are being carried out from foreign magazines of the operator the prices are dependent only on the weight of the parcel itself. A rate for the transport between magazines of the operator, taking out EUR 20, was also in a price list.

In case of the offer for customer B the individualized rate price list, where prices are made conditional on the distance of the transport and the capacity of the used means of transport, are also dealt with. This price list includes also a completion of extra services associated with transport. It was presented in table 3.

Table 3

## Price of transport service for B client

Localization	Bid [EUR]	
	24T CAR	6T CAR
Localization 1	357.15	297.60
Localization 2	223.80	178.55
Localization 3	119.05	104.75
Localization 4	311.90	245.25
Localization 5	214.30	185.70
Localization 6	328.55	273.80
Localization 7	447.60	371.45
Extra service		
Unloading the car	EUR 0.27 /carboard	
Unloading the car with the use the palette transport	EUR 0.10 /cardboard	
Unloading bags from cardboards	EUR 0.19 /cardboard	

Source: own study based on data bidding of chosen logistics operator.

In this price list it is possible to notice minor difference at using means of transport of a different capacity. It means that from a point of view of the customer, a completion of the transport on small vehicles is unprofitable, therefore it should be aspired to such an organization of the transport in order to use mainly vehicles of the 24 tons capacity. Using extra service, which constitutes unloading the vehicle, transporting cargoes on palettes is much economically justified, because then unloading is almost three times cheaper.

Definitely the straightest price list was offered to customer G. In this case only three positions are dealt with: rate for transport of box palettes of the same dimensions as euro palette (the rate amounts EUR 28.45), rate for the return of box palettes of EUR 8.45 and rate for transport of the parcel weighting below 30 kg (transport among branches) – this rate amounts EUR 4.40. This offer is very clear to understand for the customer, however it is necessary to state that the offer very poor. It has no extra services, moreover it is not possible to count on benefits of scale (associated with the weight of the parcel, applied method of transport, or the distance, to which cargo is being transported).

Definitely greater comparative abilities in the diversity of prices give us offers of actions associated with storing. Rates for the most important stock activities set for individual customers were described in table 4.

Already superficial data analysis included in table 4 assures in the belief that rates for action associated with storing are different depending on the customer. Both a kind of stored charges, and their number influence this diversity. Offers were calculated for number of cargoes determined in agreements, time of storing them and means used of manipulative duties.

Table 4

## Price of transport service for B client

	Client A	Client B	Client C	Client D	Client E	Client F	Client H
Storing of the unit of goods (price per day, Euro)	0.03	0.015	-	0.033/ passenger car tyre 0.086/truck tyre	-	-	0.071
Storing of the palette of goods (price per day, Euro)	0.17	-	0.24	-	0.25	0.13	0.23
Accept of goods (Euro)	0.92/ cardboard	0.35/ cardboard	- 1.01/ palettes homo - 4.76/ palettes mix - 0.60/ packages	- 1.19/ palette homo - 5.13/ palette mix	1.00/ palette	0.55/ palette	- 1.31/ palette - 0.60/ package
Release of goods (Euro)	1.13/ cardboard	0.27/ cardboard	- 1.11/ palette homo - 1.14/ palette mix - 0.73/ packages	- 1.12/ palette homo - 1.32/ palette mix	1.00/ palette	0.55/ palette	- 1.31/ palette - 0.60/ package
Additional services							
Completing (Euro)	-	-	0.97/ palette	1.01/ palette	0.23/ package	-	-
Issuing of PZ (Euro)	2.95/doc.	3.45/doc.	-	-	-	-	-
Issuing of WZ (Euro)	1.2/doc.	2.95/doc.	-	-	-	-	-
Labelling (Euro)	-	- 0.043/ uniform - 0.42/ cardboard - 7.62/ palette	-	-	-	-	-
Other manual activities (Euro)	-	-	-	-	-	-	8.81/hour

Source: Own study based on data bidding of chosen logistics operator.

In the case of every activity included in the above collective price list, the considerable price differentiation is being dealt with. Storing the unit of goods is cheapest in case of B customer, because only EUR 0.015 and it is price twice lower than for customers A and D and five times lower than for H customer. A bit smaller divergence takes place in case of prices for storing the entire palettes of goods – here the highest price was established for E enterprise – EUR 0.25 per palette, while for F customer the price is almost twice lower.

In the listing goods acceptance price concerning mix palettes definitely steps out, appearing in offers for C and D entities – accepting them is about four times more expensive than, accepting uniform palettes. These divergences disappear with reference to the activity of giving palettes out of the magazine.

Prices of chosen extra services, connected with storing, were also included in table 4. The logistic operator did not describe such services only in the offer directed at the customer of F operator. C, D and E enterprises were proposed a realization of completing services, however in offers for A and B enterprises prices of issuing documents of receiving and handing over goods from the magazine. Additionally B customer was presented a detailed offer of the labelling, giving a price of sticking the label for single uniform, cardboard and the entire palette. In case of H enterprise the scope of extra services is rather poor – they confined only to the determination of price for the working hour connected with manipulative activities.

Information included in table 4 even though in some cases they are incomparable, demonstrate, how much widely individual quotations of the logistic operator differ between themselves. It confirms the thesis put forward earlier that in case of 3PL subjects, a very great individualization of principles of cooperation of operators with clients, is being dealt with.

The part of analyzed offers still contains other extra services, which are connected with excise composition and functioning of custom agencies. Taking advantage of such possibilities was offered to A, C, D and H enterprises. A client using import severance pay is obliged to pay EUR 45,25 (for the rate opening entry), however issuing SAD document costs him EUR 8,35 (for the document up to 3 rate items). C customer is able to use excise composition: the rate for accepting goods to composition amounts 2,26 EUR/order, however for giving goods of composition – 1,55 EUR/order.

For this enterprise a possibility of preparing Single Administrative Document (SAD) documents, imported and exported in the price 38,10 EUR/SAD + EUR 2,40 for every item of every document, also exists. For D customer the same rates for preparing SAD documents were established. A little bit higher rates are applied to H customer. In its case the offer expects EUR 35,70 payment for preparing the export document (opening it) and EUR 1,2 for adding every extra item on the document. The customer can also register authorization in custom agencies – such an operation will cost him EUR 4,05 and it is disposable payment.

The above information indicates that even prices of the services associated with the customs agency excise composition differ depending on the customer. Emphatically it provides the fact that the logistic operator fits its offer (both in terms of the kind of provided services and prices) to needs, requirements and the possibilities of a given customer.

The level of business relationship, with a particular client, is also a significant aspect when creating an offer. If a client is being served by a logistics operator for a long time, the offer for him is made in a way he is fully satisfied and does not feel the urge to check other offers available on the market. Moreover, the budget for current year, in which an offer is being prepared, already includes, in its prognosis, the execution of a bid contract, therefore, a logistics operator can adjust stakes to rock bottom ones offered by competitors to retain even a partial budget execution. A deliberate bidding of services price, which significantly exceeds the level of market prices, almost does not exist. This effect usually takes place when a company,

which has not got any previous experience in delivering specific service or imposes an adequate margin on all services prices from its subcontractors. It happens due to the fact that an operator does not verify the actual clients' expectations and does not create a competitive offer which, at the same time, would not allow for a direct comparison with other offers. Inter alia, it concerns hiding fixed costs of a warehouse space in a stake, for instance, for labelling or palletization or distributing and including those costs in all components, not as an individual cost component.

When it comes to logistics operators, a bidding also takes place on the basis of the "space filling" rule. In such case, the majority of a "warehouse filling" is offered to one strategic client, with no margin, only to maintain the other part of a depot and staff. That is why a direct offers' comparison is difficult.

Such action is evidence of the great flexibility of analyzed 3PL supplier and let's one think that thanks to optimum calculating of offers it is able to deal well even with more and more competitive environment.

### **3. Conclusions**

The increase in the competitiveness caused by globalization forces enterprises to improve effectiveness and quality of customer service. The keynote of this research paper was to familiarize with a form of an offer's creation, itself, rather than to focus on the market practice, which is applied by logistics operators, and which, in a large extent, remains a company's secret. In order to meet these tasks, many business entities focus their entire attention on the main activity, commissioning large portions of functions outside. The increase in the popularity of outsourcing, especially in the sphere of the logistics, contributed to the significant development of the sector of logistic contractors, amongst which logistic operators have a key meaning.

A source of the competitive edge of 3PL suppliers can be not only the best quality of provided services and the great flexibility, but also the effective price optimization of offers. Prices of the services can be established admittedly with the help of the standard, stiff price list, however in the majority they are negotiated between sides. So logistic operator must well and quickly calculate all costs, which will be forced to carry in order to realize service and add the profit margin to them, to present the offer to the customer, which he will be able to accept. It next causes that prices of individual services can much differ depending on the client.

The proof of the existence of significant differences in prices of services is an analysis of chosen offers introduced to customers by X logistic operator. These differences not only appears in transport rates, or payments for storing and manipulative operations, but also in extra services. Diversifying prices depending on the customer is one of reasons, for which offers of

logistic operators are included with clause of the confidentiality. Making such condition to clients by 3PL supplier cannot be surprised, because in case of the leak of such information all present and prospect clients would expect leveling rates down to the minimum price. Having considered the great individualization of provided services, it would be in many cases impossible from an economic point of view – directly speaking, the logistic operator would incur heavy losses, being able to lead even to his bankruptcy.

Cost analysis is a neuralgic factor in creating offers of logistic operators. In general awareness this aspect is often undervalued and gives up its place to the quality of service or the elasticity of action. Meanwhile a correct cost accounting and of prices for provided services is exactly a key of the success of the best logistic operators. Reasonable price rates allow for supporting previous customers and gaining new and the appropriate level of profit is essential to provide the service for the best quality and gives the chance of the increase in the flexibility and leading of new logistic solutions. It will not be possible however to achieve the balance between these two aspects without returning the due attention for cost analysis of offers presented to contracting parties.

Examinations conducted for the purposes of the present article are not draining the topic, are not also free from the imperfection and restrictions. Analyzed offers are adapted for needs of specific customers, and so they are not spreading through the whole range of the offer of the operator. In case of other requirements of prospect clients, the offer of 3PL subject will be looking differently and can contain services not included in this elaboration. What is more, it is not possible also to exclude the situation, in which the operator will not be able to meet requirements of the customer and will not be able to offer the service expected by him. This article focused only on analysis of cases, in which service provider logistic undertook the accomplishment of tasks entrusted him and reached the reference of cooperation. A subject of the refusal of the completion of logistic services by the operator and of motives for this refusal (connected among others with the economic unprofitability) requires separate examining. This issue should be an area of further, much wider researches, which will let for deeper analysis of possibilities of cost individualization of 3PL subjects offer. The comparison of activity of various logistic operators to evaluate, which factors have the most significantly influenced the ability of successful individualization of offers for single clients, could also be interesting.

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