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Consumer satisfaction with the quality of logistics services

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Abstract

This article analyses customer satisfaction with logistics services; however, considerable attention is paid specifically on their quality. This activity is part of service industry, whose main feature is that the origin of a service is caused by consumer demand and its recognition – by customer satisfaction.

Customer satisfaction is very important for logistics companies seeking competitive advantage, because they realize that if they do not satisfy the expectations of customers, their place will be taken by other companies whose activities will be more concentrated on customer expectations. Therefore, logistics companies must ensure every customer service related aspect, no matter what it includes: acceptance of orders, their execution or the solution of problems. A client of a logistics company must be sure that the chosen company understands his needs. Considering this, the article presents the results of the research related to customer satisfaction with logistic services and their quality.

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1. Introduction

As competition in the services sector is constantly increasing, the ability of companies to understand their customers and ensure their satisfaction with the services received is becoming more and more significant. Most scientists in their work, such as: Campos & No'brega (2009), Chee & Noorliza (2010), Chen, Chang & Lai (2009), Huang & Huang (2012), Davidavičienė & Meidutė (2011), Jaiswal (2008), Jayawardhena (2010), Juga, Juntunen & Grant (2010), Lu & Jang (2007, 2010), Meidutė, Litvinenko & Aranskis (2012), Mentzer, Flint & Kent (1999),

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Mentzer, Flint & Hult (2001), Kilibarda, Zečević & Vidovic (2012), Panayides (2007) note that the client is the most important part of any business of the service sector. Assessing this, it is important to keep in mind that the activity of the service sector oriented exactly to the clients and its results directly dependent on customer choice.

According to Liu & Xie (2013), Xie, Wang & Lai (2011), Rahman (2008), Tapiero & Kogan (2007), Hays & Hill (2006), Balachandran & Radhakrishnan (2005), quality is the basis for the functioning of the service sector, thus one of the main tasks of the rapidly growing service sector is to ensure the quality of service to the customers. Considering this, it is safe to say that one of the most important current logistics business success guarantors is the quality of the provided services, especially knowing that a service is an impalpable act or process (Chen, Chang, & Lai, 2009, Huang, Wang, & Xue, 2012), therefore it is closely related to the satisfaction of the clients' needs. According to many authors (Zeithaml, Berry, & Parasuraman, 1993; Woodall, 2001; Chapman, Soosay, & Kandampully, 2003; Gorla, Somers, & Wong, 2010), expectations' manifestation depends on how customers perceive and interpret the environmental factors influencing the formation of expectations. Some factors may be controlled by a company, foreseen and be prepared for, but other factors depend on the clients in a larger extent (psychological, cultural, social), therefore logistics companies face a huge challenge to understand their customer, find out his needs and strive to meet customer expectations. Considering this, logistics companies need to keep in mind that seeking competitive advantage and customer circle's growth, they must immediately ensure the customer's acknowledgement as a service provided one time is remembered for a long time and the fact whether it was qualities or no further will determine the client's choice; and this means to the logistics company whether it was able to attract or retain a customer or not.

Moreover, according to Jia, Mahdiraji, Govindan & Meidutė (2013), Lu & Yang (2006), Yao, Lee & Yang (2010), Yang, Marlow & Lu (2009), Esper, Fugate & Davis-Sramek (2007), Meidutė & Raudeliūnienė (2011), Meidutė, Litvinenko & Aranskis (2012), Sandberg & Abrahamsson (2011), effective economic development of the country as well as industrial and commercial business success is not possible without logistics services that create added value for businesses, ensuring the expediency of products' time and place and meeting the client's needs. Accessing the effect of the services sector on the performance of different companies, logistics service quality becomes the main object of research for researchers and practitioners (Autry, Zacharia, & Lamb, 2008; Bhargava & Sun, 2008; Brah & Lim, 2006; Breja, Banwet, & Iyer, 2011; Carmignani, 2009; Foster & Ogden, 2008; Fuentes-Fuentes, Lorens-Montes, & Albacete-Saez, 2007; Hoang, Igel & Laosirihongthong, 2010; Juga, Juntunen, & Grant, 2010; Hsieh & Liu, 2010; Rafiq & Jaafar, 2007; Tse & Tan 2011; Karia & Wong, 2013; Wong & Karia, 2010; Pantouvakis, Chlomoudis, & Dimasa, 2008). And this certainly underlines the relevance of the problem being investigated.

This article focus its attention on the analysis of the concept of customer satisfaction and the understanding of service quality, as further investigation is conducted specifically aiming at service companies, i.e. logistics companies. The scientific analysis of these topics is relevant because the goal in this article is to determine how customers evaluate logistics service quality and what is the index of their satisfaction with these services. Also this article and the performed research will attempt to justify (or refute) the raised study hypotheses

2. Concepts of customer satisfaction and level analysis

Service quality and customer satisfaction are two very closely related and sometimes even identified concepts. Customer satisfaction is a key factor in assessing the quality of a service. If it is difficult to define the quality of service; it is even harder to determine the level of customer satisfaction. Caceres & Paparoidamis (2007), Gorla, Somers & Wong (2010) argue that service quality is the predecessor of customer satisfaction. It can therefore be assumed that the quality of service leads to customer satisfaction. However, there is no doubt that both of these elements – service quality and customer satisfaction – are generally recognized as the major decisive factors in maintaining long-term and successful business relationships (Jayawardhena, 2010; Hoang, Igel, & Laosirihongthong, 2010; Rahman, 2008).

Thus, both logistics service quality and customer satisfaction is especially important in the current business environment, as the relationship between the service provider and the client is usually long-term (or at least it is attempted to keep them as such). One of the most significant elements in service markets is the support and development of relationship with the customer (Caceres & Paparoidamis, 2007). For the relationship to be long-

term, a logistics service provider has to provide a service in line with the customers' expectations, leading to the appropriate level of customer satisfaction.

It is important for logistics companies while carrying their activities to show that their actions and deeds are concentrated on customers. Zairi (2000), analyzing customer satisfaction, indicates that customers comprise the aim of the company's activity, i.e. he focuses the fact that not service users and customers depend on the company, but the company's performance depends on its existing customers. Wirtz (2001) also stresses that customer satisfaction becomes the key element companies' focus on seeking to promote repeated business relationships and increase long-term profitability. Other authors argue (Panayides, 2007; Liu & Xie, 2013) that in the current competitive environment it is dangerous to be a non-customer-oriented company. Most of the companies are competitive, and in order to stay in the market, they must provide high-quality services that would make customers satisfied and loyal. It also should be considered that logistics service companies should know their customers because the company, having sufficient information and knowledge about its customers, has more opportunities to make right decisions on the needs of the client, which allows companies to develop new services that provide real value to customers as well as to assess quantitatively the values desired by customers.

A customer-focused strategy meets better the needs of the customer. Juga, Juntunen & Grant (2010) believes that customer-oriented companies use market data and information to develop new services and to understand how the customers assess the services; they are more focused on their customers than their competitors and believe that their businesses exist primarily to serve their customers and customers' needs are always on the first place. Other authors argue that a customer-oriented business mission is better than a product-oriented mission as it provides a solid foundation for value creation (Jayawardhena, 2010). Jaiswal (2008) generally defines customer satisfaction as a customer assessment in terms of whether the service meets the customer's needs and expectations. It is important to note that each client's expectations are (or may be) different. This may depend not only on the personal interests, but also on the environment, area, the type of business in which those expectations are formed. Thus companies' ability to be flexible and adapt may help to gain an advantage over other business entities. Examining logistics services, flexibility is a particularly important aspect. Flexibility in logistics is a possibility to a company to quickly and effectively respond to the changing needs of the client (Autry, Zacharia, & Lamb, 2008; Juga, Juntunen, & Grant, 2010).

3. Quality of service. Assessment of logistics service quality

Quality of service, as a concept, raises a high interest of scientists and researchers, as the quality of service is not only difficult to define, but to measure as well (Autry, Zacharia, & Lamb, 2008; Bhargava & Sun, 2008; Brah & Lim, 2006; Breja, Banwet, & Iyer, 2011; Carmignani, 2009; Foster & Ogden, 2008; Fuentes-Fuentes, Lorens-Montes, & Albacete-Saez, 2007; Hoang, Igel, & Laosirihongthong, 2010; Juga, Juntunen, & Grant, 2010; Hsieh & Liu, 2010; Rafiq & Jaafar 2007; Tse & Tan 2011). The main definitions of quality of service focus on the fact that the service has to meet the customer's needs and expectations (Liu & Xie, 2013; Breja, Banwet, & Iyer, 2011; Carmignani, 2009) and is interpreted as a difference of terms of service provision and customers' expectations of perceived service. If the customer's expectations are higher than the result of the service process, then customer perceived service quality is not satisfactory (Huang, Wang, & Xue, 2012).

Logistics service quality is the result received comparing customers' expectations with customers' perception of service quality. Clients, prior to ordering the service, already have expectations of what the service provider should offer them. Therefore the quality of logistical service perceived by the client is the difference between the perceived service and expectation (Campos & No'brega, 2009).

The quality of service is closely related to customer expectations. In today's competitive environment, the pursuit of customer satisfaction highly depends on the organization's overall service quality. According to many foreign authors (Chee & Noorliza, 2010; Chen, Chang, & Lai, 2009; Huang & Huang, 2012; Jaiswal, 2008; Jayawardhena, 2010; Juga, Juntunen, & Grant, 2010; Lu & Yang, 2007; Mentzer, Flint, & Kent, 1999; Mentzer, Flint, & Hult, 2001; Kilibarda, Zečević, & Vidovic, 2012; Panayides, 2007), satisfaction of customers' expectations regarding service quality affects business performance and encourages customer loyalty.

Customer satisfaction depends on various factors such as the perceived quality of service, customer mood, emotion, social interaction, customers' associates' experience and other specific subjective factors. In addition, it is necessary to keep in mind that customer satisfaction with the quality of service is not the objective assessment of the real situation, but an element of emotional nature. Customer expectations' satisfaction is generally seen as a positive opinion of the client about the service after the service is performed. In other words, this is evaluation of the results of the process.

In summary, we can say that, in general, the quality of service can be defined as services which must meet customers' expectations and to satisfy customer needs and requirements.

4. Research of customer satisfaction with the services provided by logistics companies in Lithuania

Within the limits of this article, the customer satisfaction survey is conducted in three phases, where in the first stage initial data was collected and evaluated, in the second stage – raised hypotheses were examined, and finally in the third stage customer satisfaction index were calculated.

The primary data was collected through an indirect survey when respondents were asked to answer to the questions of the prepared questionnaire. 151 companies were questioned in total. The survey was conducted seeking to identify the respondents – companies' general parameters, the frequency of the need for logistics services, major logistical activities' implementation alternatives, to distinguish and evaluate the parameters determining the selection of the logistics service provider, to assess whether the parameters meet the customers' expectations, to assess separately the quality of logistics activities provided in Lithuania, the politics of distribution of logistics services among service providers, perceived general quality of services, assessment of perceptions of consumer expectations, the need of business logistics services.

The first stage of the research revealed that both companies' transport policy as well as storage policies depends on the company's financial situation, the availability of resources, reserves, etc. Higher income generating companies are often able to have an own transport fleet, while others often hire transport or assigns this logistics function to other companies engaged in transport, and storage activities, which are numerous in Lithuania. Intense competition among logistics companies provides good conditions for customers to receive high quality services at relatively low prices. In this way, small firms minimize costs, save time and other resources that can be used for optimization of other processes vitally necessary for the company. The main criteria for choosing a storage or transportation service provider are the cost and safety. Companies, shifting from their own logistics departments to outsourcing services, minimize costs as much as possible in the field of logistics. Lower expenses, lower cost, faster and more efficiently performed logistic functions have been identified as the main reasons. However, not in all cases outsourcing services mean's business optimization. Larger companies should, on the contrary, have their own logistics departments as a centralized logistics system optimizes both time savings and operational costs – with the increase of production, logistics functions should be centralized within the company.

During the research, prior to the assessment of logistics services as the quality of a complex and compliance to consumer expectations, consumer satisfaction was assessed for each component of the complex separately. The study has identified the most relevant features for consumers and assessed their quality. The quality of transportation, use and storage of IT service was evaluated as the best, customs brokerage, supply chain consultation and customer services were evaluated as the lowest (Fig. 1). In assessing the results from the systematic point of view, the quality of individual functions did not deviate from the overall average of the five-point evaluation system maintaining the average of 3.34. Mathematically received average is more positive than negative; however, in practice it is most appropriate to assess the quality of services as medium. Such evaluation made by customers' shows that logistics services' quality meets the needs of customers only in part.

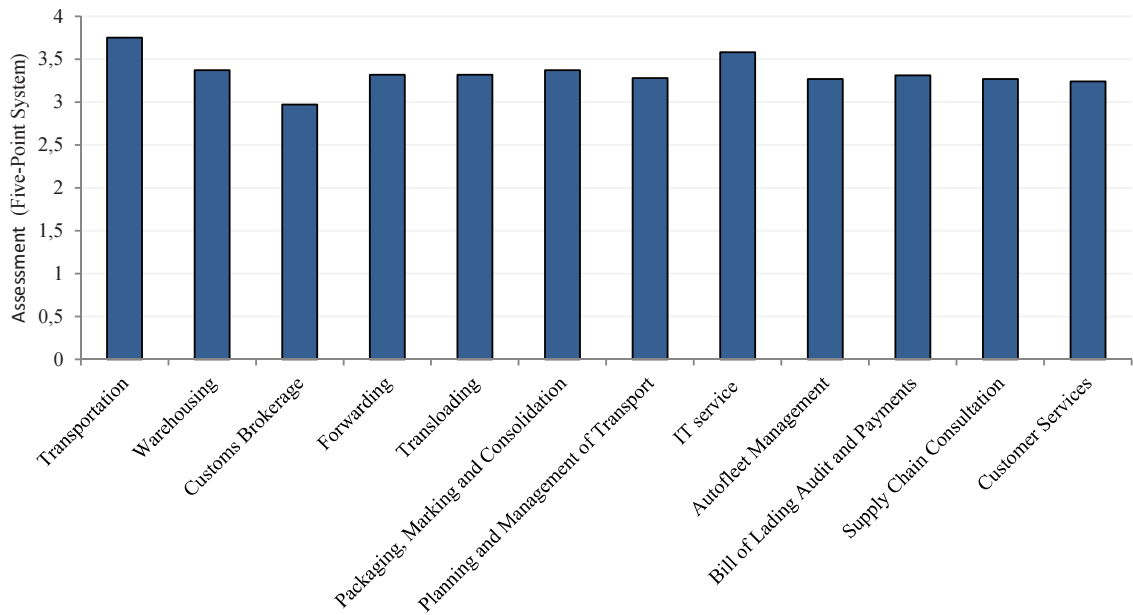


Fig. 1. Assessment of logistics activities (prepared by authors)

The research also assessed the quality in each stage of the customer service according to the most important criteria for describing the logistical task performance. The clients of logistics services in Lithuania consider the solution of problematic situations and advance assessment of activities' costs as of lowest quality as these aspects lack of execution speed, flexibility and punctuality. These are the aspects that indicate where the operators providing logistics services in Lithuania should focus their attention on improving their performance. These stages do not occur in all operations, thus service providers may be improperly prepared for them, and it is likely that their service providers even try to avoid. Acceptance of orders and order accounting and documentation management were evaluated the best and these phases received positive evaluations regarding the performance speed, diligence and flexibility. Assessing separate criteria, flexibility and performance speed received highest fluctuations of evaluations. The thoroughness of logistics service providers was evaluated the best (almost in all service stages), as well as flexibility; technological solutions were evaluated the worst, suggesting that service provider are not equipped with customer expectations justifying technological equipment (physical), while the application of IT measures in logistics was evaluated at high scores. In the service evaluation stages the customers were also directly asked to evaluate the satisfaction of their perceptions and expectations, and the obtained results were compared with the arithmetic average of all criteria's average of each service stage. As it was expected, the evaluation of expectations had the highest grade, while the satisfaction of needs was proportionally lower, the average of the criteria was close to the assessment of satisfaction of needs, however, the stage of the assessment of problematic situations distinguished, when the average of the criteria was higher than the evaluation of expectations perception and needs satisfaction – it is assumed that consumers do not realize properly the quality namely in this stage (Table 1).

Table 1. Averages of client service stages according to criteria (prepared by authors)

	Advance Assessment of Activities' Costs	Acceptance of Orders	Order Execution	Solution of Problematic Situations	Order Accounting and Documentation Management
Performance Speed	2.6	4.1	3.9	2.4	4.6
Thoroughness	3.1	4.2	3.8	3.6	4.5
Technological Solutions	2.7	2.4	3.2	2.6	3.5
Flexibility	3.6	4.5	3.5	2.4	4.5
Punctuality	2.4	3.6	2.9	2.8	3.7
Prompt Reaction	2.5	3.9	3.4	2.7	2.9
Perception of Expectations	3.3	4.2	3.5	2.3	4.6
Satisfaction of Needs	3.1	3.9	3.3	2	4.5
Mean of Criteria	2.82	3.78	3.45	2.75	3.95

In the second part of the research, seeking to evaluate logistics service quality and compliance to customer needs, four hypotheses had been raised:

H1: The evaluation of logistics service performance depends on the perception of consumer expectations.

H2: the number of logistics service providers servicing the client depends on the assessment of service quality.

H3: the number of logistics functions allocated to a service provider depends on the assessment of service quality.

H4: The demand of business logistics functions' performance depends on the assessment of the perception of customer expectations.

In order to verify the hypothesis regarding the dependence of symptoms and seeking to determine whether any connection between the attributes exist, the research used the Pearson χ^2 (criteria) and correlation coefficient as the compatibility criteria that indicate the statistical dependence between the variables.

The first hypothesis (H1) is aimed to establish the connection between consumer expectations' perceptions and the assessment of customer satisfaction or service quality. The hypothesis is made that the companies properly perceiving customers' needs provide (better assessed) logistic services of better quality. For the verification of the hypothesis, initial data of questionnaires and questions when users were asked to directly evaluate the service provider separately for perceptions of consumer expectations and provided service quality were used. The correlation coefficient calculated according to the obtained data showed a weak connection, however, the Pearson criterion values allow to accept the hypothesis as correct because in all cases it is lesser than the chosen significance level $\alpha = 0.05$. Therefore, it can be said that a logistics company in order to provide high-quality logistics services must properly understand and assess customer needs and expectations in the first place (Table 2).

Table 2. Values of compatibility criteria researching the dependence of consumer satisfaction's assessment (service quality) from the perception of expectations (prepared by authors).

Assessment of logistics service quality	5	4	3	2	1
Correlation Coefficient	-0.069	0.027	0.217	0.142	0.51
Pearson χ^2 (Criteria)	0.032	0.021	0.041	0	0

The second hypothesis (H2) states that the number of logistics service providers serving a customer depends on the assessment of service quality. This hypothesis aims to evaluate the influence of quality services on the results of

logistics service business possibly expressed by customer loyalty. The Initial data required for the hypothesis testing were obtained from the questionnaire survey evaluating the logistics service quality, as well as the number of the servicing logistics service providers (Fig. 2). The compatibility coefficients calculated during the research also allows to accept this hypothesis as correct, thus it may be said that a company providing qualitative logistics services and thus directly reducing the potential number of competitor, creates a significant competitive advantage, and thus focuses the future scope of service performance in its hands. It should be noted that the consumer receiving a high quality product will expect the same level of service and will apply to the service provider again, skipping its competitors, but it is likely that disappointment in services encourages to look for alternative service providers service providers and to make a comparative analysis of service providers despite an increase in the time cost.

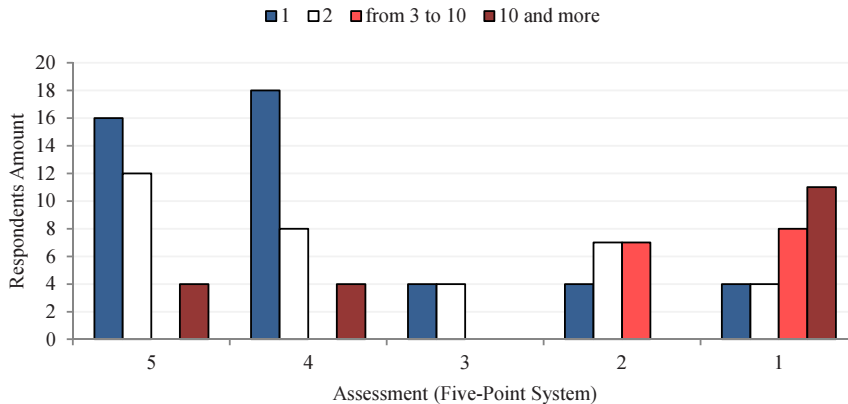


Fig. 2. Dependence of the number of logistics services providers from quality assessment (prepared by authors)

The dependence of the number of the logistics activities received to be performed by the service provider on the assessment of service quality is researched through quantitative assessment of the values of the third hypothesis (H3). This hypothesis would confirm that the logistics service, while providing quality services, would achieve greater customer confidence and concentrate in its hands the performance of all potentially relevant services, thereby creating a competitive advantage, minimizing competition risk and ensuring client loyalty. The initial data obtained from the questionnaire after the consumers evaluated the logistics service quality and the distribution of logistics services' performance among partners (Fig. 3). The criteria calculations and evaluation performed with the help of SPSS software allow you to accept this hypothesis as correct. The service provider, concentrating in the internal environment the growing number of performed operations, may expect economics of scale as well which also increases the competitive advantage, further reducing potential competition.

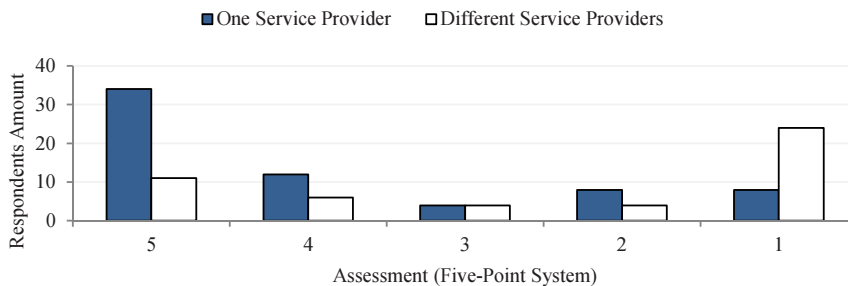


Fig. 3. Dependence of performed logistics activities from quality assessment (prepared by authors).

The fourth hypothesis (H4) states that demand of performance of business logistics functions depends on the assessment of client's expectations' perceptions. This hypothesis assumes that logistics companies are acutely aware of the needs of customers, as well as the perspectives provided by logistics services offered in global markets as a total business management model, provide the services of such nature in Lithuania as well. Initial data for the quantitative assessment of the hypothesis was obtained from the questionnaire survey after the evaluation of customer expectations for logistics services and the trust of the customer's business logistics functions trusts to a logistics service provider (Fig. 4). Mathematically assessing the criteria identifying statistical relationship no correlation was detected between the original data, thus the set hypothesis is rejected. The conclusion is made that logistics service providers are not yet sufficiently aware of the clients' needs, fail to properly form them using appropriate information techniques about the potential benefits.

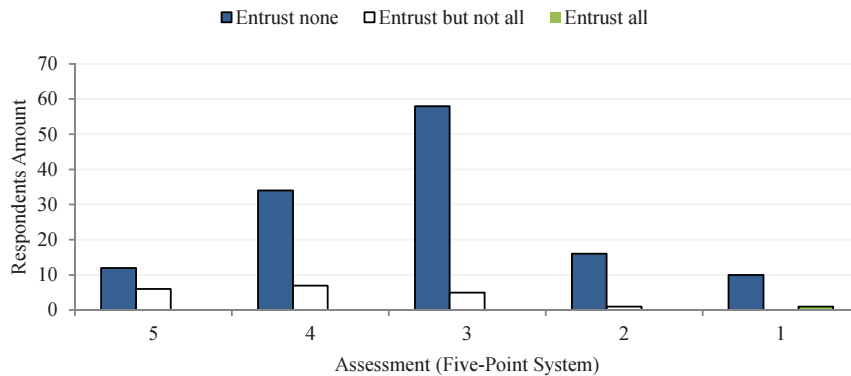


Fig. 4. Dependence of the demand of business functions performance from the assessment of the perception of client expectations (prepared by authors)

Before commencing the third phase of the research, five major parameters having the highest influence on the selection of the logistics service provider were established. The most important criteria were distinguished as follows: the quality of service and price, less important – servicing, technological solutions, the least important – companies' experience and a range of provided services. Evaluating customer satisfaction - customer expectations were not firmly justified by any criterion. The quality of services and the range of services met the expectations the best. Servicing, price and the company's experience received the poorest results (Fig. 5).



Fig. 5. Assessment of the criteria of selection of logistics service providers (prepared by authors).

After the respondents had evaluated the importance of the criteria, the quality parameters (Table 3) were obtained required for the estimation of the Customer Satisfaction Index (CSI) (quality parameters (n), their importance (ω_i) and evaluation (c_i)).

Table 3. Significance of the quality parameters of consumer satisfaction index (prepared by authors)

C	Quality of Service	Servicing	Price	Companies' Experience	Range of Provided Services	Technological Solutions
ω_1	4.22	3.86	4.10	3.40	3.42	3.71
c_1	3.72	3.34	3.59	3.43	3.59	3.65

The estimated value of the real CSI turned out to be 80.79, corresponding to the point 7 in a ten-point system; it shows that consumers in Lithuania are more satisfied than dissatisfied with logistics companies services. The estimated Customer Satisfaction Index (CSI) was slightly higher than the average of consumer needs satisfaction obtained from the assessment of individual stages of customer service quality evaluation; it is assumed that consumers are not fully aware of their expectations related to the received logistical services, so it is difficult for them to define and assess their satisfaction level in one or other logistic services.

5. Conclusions

As the research results have shown, logistic service users are fairly conservative, cautiously consider innovations, and have the greatest need for basic logistical activities – transportation and storage, they skeptically evaluate the ideas of logistics as a model of the whole business management, increasingly applied in the global markets, however, they properly accept IT integration and feel lack of technological innovations in logistics processes at different stages of the customer service. Logistics services are evaluated primarily according to their price and safety.

Service providers, seeking to attract potential service users, must first properly understand the expectations of consumer needs. The research demonstrated that it directly affects customer satisfaction. High quality of services increases the service provider's competitive advantage, consumer loyalty, and reduces the number of competitors; the research demonstrated that a company prefers that company which has been providing quality services, reducing the number of partners serving it, rejecting offers from competitors without a detailed assessment of other parameters. The research also proved that logistics company, properly carrying larger quantities of logistic operations, receives better performance evaluations, thereby also increasing its competitive advantage and creating favorable conditions for the development of economics of scale. Consumers, while selecting from potential providers, evaluate not only service quality (physical), but also the cost of services, servicing, the applied technological solutions, the provider's experience and the range of services.

The research suggests that logistics service companies Lithuania perceive expectations of consumers and are able to meet the needs of consumers, since the CSI (80.79) received during the research is more positive than negative, also the consumers, asked directly, positively assess the satisfaction of their needs and the partners' ability to assess their expectations.

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