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Logistics Situation in Lithuania – Changes During 10 Years

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Abstract

In 2007 and 2016 Vilnius Gediminas Technical University performed surveys of logistics situation in Lithuania. These surveys discovered mostly relevant problems in logistics: costs policy, logistics competences, personnel competence development requirements and changes during ten years. The positive trends of logistics transportation and IT systems development were identified during these surveys. The product customization, inventory management, warehousing, invoicing, order processing and reverse logistics outsourcing are relevant. The majority of Logistics companies suppose that their operating environment in Lithuania is good enough. Surveys' results indicated that Lithuanian logistics companies have positive tendencies in the self-assessment from the different points of view. In this article the main results of these surveys are presented.

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Keywords: logistics, transport policy, survey

1. Introduction

During last years Lithuania was named as logistics country and it is true because since the first years of Lithuania's independence, the image of the country is being established as "a transit and logistic service country", its international transport corridors connect West and East (TEN-T- 9), as well as South and North European countries (TEN-T- 1). In 2006/2007 Vilnius Gediminas Technical University participated in the international project "LogOn Baltic" and performed wide logistics situation survey [1]. The survey with the same questionnaire were

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repeated in 2016. In general, surveys' results have showed that logistics situation in Lithuania is enough positive and had good tendencies of expansion. It confirms the rise of Lithuanian logistics performance index – (2007/2016 – 2.78/3.63) and Lithuania's position in the world: 007-58 rank and 2016-29 rank [2, 3].

The development of personnel competence in 2006 in different business groups was insufficient: personnel requires basic logistics skills and basic concepts linked to supply chain management and in 2016 it was identified as high. But at this moment – after 10 years – it is very important to revise results and evaluate them from the new point of view because situation in the market and general economic situation is changing very quickly and dramatically [4].

2. Methodology of the survey

Three versions of surveys diverted to three types of companies have been used: manufacturing/construction companies, trading companies, logistics service providers. The questionnaires consisted of two parts: one part with general questions (being the same for the three types of companies), and another part with specific questions concerning the type of companies mentioned above [5, 6]. The surveys were performed in 2006/2007 and 2016.

By companies size distribution range we can predicate that biggest part is micro-size companies in 2006 was – 49%. Number of micro-size companies signally declined and in 2016 were not involved in the survey. Small-size companies composed 30% and 42%, other were: medium-size – 17.5% and 28% and large-size – 3.5% and 28% (Fig. 1).

In the survey 22 % and 9% of the respondents represented manufacturing, 33% and 27% trade and commerce and 45% and 64% logistics companies. Favorable opportunities emerge for Lithuania to utilize its geographic position on the Eastern borders of the EU [7]. During the surveys 2006/2016 it was indicated that cargo transportation were made easier within the EU, more predictable and precise, although somewhat complicating the connections with countries outside the EU. Surveys in 2016 were performed as a matter of routine conditions of membership in the EU (Fig. 2) [8].

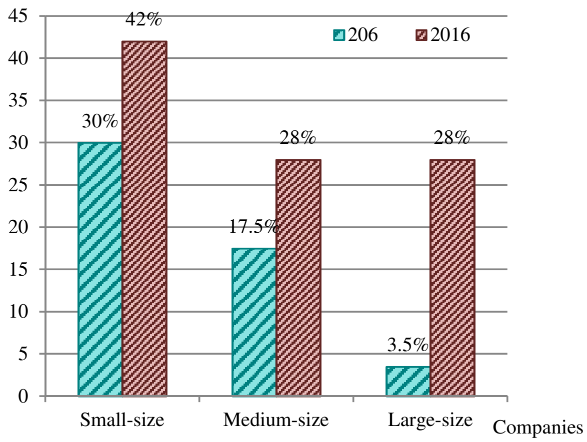

Fig. 1. Distribution of the company's size in 2006 and 2016 year surveys.

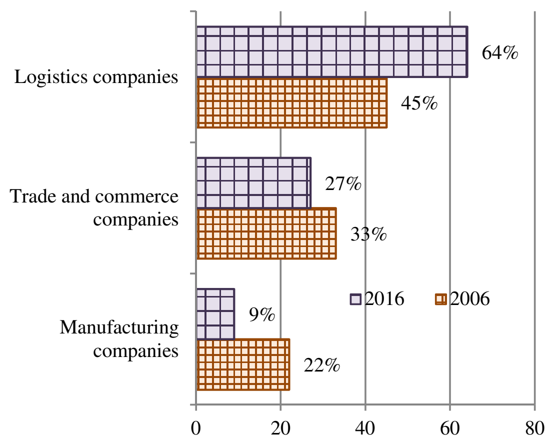

Fig. 2. Distribution of the company's activities in 2006 and 2016 year surveys.

The different rage of the companies' staff took part in this survey. The survey was carried out among various categories of personnel, but the majority of respondents interrogated consist of senior management 33% and 9%, middle management 33% and 18%, operational staff 21% and 36%, experts 1% and 37% (Fig. 3). Coverage of various categories of personnel made this survey enough qualitative and reliable. This coverage influenced the competence of answers because the biggest part of respondents were senior and middle level managers who had enough experience and information from different company's activity fields.

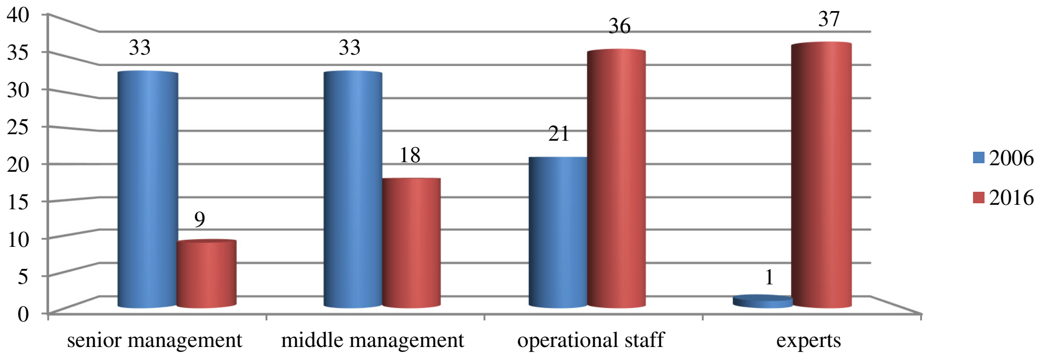

Fig. 3. Distribution of the survey's respondents by positions in 2006 and 2016 year surveys.

The main themes of the survey were:

- Current logistics costs and their development;
- Key logistics indicators, including lead time, and customer service;
- The need for further competence development;
- Outsourcing, the situation today and expected development within the firm;
- Operating environment, an assessment of the regional pros and cons;
- Self-assessment of the company's logistics activities and future development directions.

In this article authors will concentrate on logistics service providers' investigation results because it relates with the main problematical point and assumption that logistics service providers are most sensitive over the last 10 years.

3. Main findings from logistics service providers

2006 surveys displayed quite pessimistic point of view of respondents in regards to the future development of logistics services. Respondents expected that during 10 years the amount of standardized service packages will increase from 10% to 20% (in 2016 it increased to 45 pct.). Respondents misjudged trade and logistics service priorities connected with Lithuania's membership in the EU. They planned that the scope of warehousing services during the future 10 years will be at the same level. According to the statistic data, the number of warehouses and amount of warehousing operations increased almost twice. Respondents underestimated grows of trade and goods transportation amount through East–West transport corridor. It was planned that the amount of transportation services will decrease by 50% but it increased to 56%. Companies were planning that customized logistics service package (mainly were evaluated by Lithuania's customers' requirements) will decline from 11% to 8% but it increased approximately 30% during ten years due to the growth of international and global trade. We can analyze this fact from different points of views. Firstly, companies are trying to enter the international and global markets to optimize their activities and use standardization issues. Also, standardization and orientation to standardized service packages are related with strive to improve service quality and implement modern quality standards [8].

Lithuanian companies are faced with growing personnel costs and lack of the qualified labor force (particularly heavy trucks drivers) and in many cases customized services packages need qualified personnel, it is difficult to standardize, but growing customers' requirements and competitors' pressure are forcing rapid changeover. Quite big number of logistics and freight forwarding companies are trying to extend their own services and deny simple functions as transportation only.

In 2006 respondents noted that the greatest expectations were connected with logistics IT systems, 3PL/4PL services development, international transportation and freight forwarding. 2016 survey results coincided with the 2006 answers. In general, all logistics activities are related with additional costs and could be understandable as outsourcing (international transportation, domestic transportation, freight forwarding, order processing, invoicing, warehousing, inventory management, product customization, 3PL/4PL service). Tendencies are positive for all logistics operations. Especially the big demand of international cargo transportation and logistics information systems development are preplanned. On the other hand – we faced some misunderstandings between logistics companies and manufacturing and trade companies because some trends are totally different. For example, freight forwarding, international transportation and domestic transportation have negative trends in this case. Possible business conflicts between logistics companies and their potential clients were anticipated. A need for better cooperation between logistics companies and their clients were identified. It can be achieved by:

- improving existing contacts and cooperation process;
- improving preparation for possible cooperation process: market analysis, clients' needs analysis, orientation to individual clients' needs.

Logistics companies emphasized that the most important personnel competence needs are related with:

- transportation management, warehousing;
- management of innovations;
- supply chain management, knowledge of foreign languages.

It is understandable since transportation costs are rising and for the better service results can be achieved by implementing new energy-saving technologies and methods. At the same time logistics companies' profitability is connected with better management and organization structure.

Innovation and management changes demands are correlating with situation in the market.

During analysis of the largest logistics service threats it was noticed that most important threats are:

- tightening competition;
- increasing cost of services;
- deficiency of competent staff.

All these threats are connected with companies' business organization processes, quality of the services, costs and market demands. It is very important, that companies understand these threats and possibilities to reduce this. The most important future development are connected with:

- extending range of offering services;
- improvement of customers service quality;
- cutting service costs;
- personnel training and competence development.

The majority of logistics companies (2016 survey results) suppose that their operating environment in Lithuania is good enough. Concerning the opinion linked to the transport infrastructure, about 50% of respondents could agree that it is quite good quality, but nearly 15% of respondents assume that transport infrastructure is insufficiently good.

It could be explained that logistics service providers are on the development process and they do not have a clear opinion about market conditions. From one point of view it is dangerous since this sector becomes sensitive, but from another point of view – it is open question for future development and searching better positions in the market.

2007 survey results identified not good enough situation in the IT sector because companies are too much using traditional ICT facilities: 70% are using traditional mail/telephone/fax; over 77% using e-mail. Usage of modern ICT was very low: RFID – 0%, barcodes – 7%, intranet/extranet portals – 10%, Web-based portal – 20%. It shows not only low ICT usage but time and efficiency losses in clients services [9].

2016 survey detected tremendous changes in ICT usage and Internet access of transport and logistics companies in comparison with 2006.

All companies in Lithuania determined that ICT means are available in the offices and among white-collar workers. The rate of Internet access and the access to company E-mail accounts in the companies can be considered high.

From the survey we can deduce that there is high-competence in IT companies in Lithuania, who can implement modern IT software for logistics and transport companies. Regarding the outcomes, this still remains an open question: from one point of view, it is good because companies can implement specialized IT in their own field of activity, but from another point of view, IT specialists in many cases do not have enough knowledge about transportation or logistics particularities, so that the implemented software does not completely satisfy the clients' needs.

All respondents use Internet to obtain information or complete/send online forms. A high rate of online form usage is a result of a systematic e-Government development in Lithuania as it is compulsory for the public institutions to accept digitally signed or any other type of electronic documents. Making online payments is explained by quite high internet banking rate in Lithuania.

The survey identified that there is no remarkable difference in demands either from the customer or the supplier side concerning order placement or payment possibilities status. Both are commonly used among respondents and explainable by high level of E-mail and Internet banking usage.

The development of e-commerce is seen similarly from the customers and the supplier's side.

Respondents emphasized that they believe E-commerce has a significant effect on perspectives of doing business. The most important one is helping to simplify transactions and therefore speed up different processes. Nearly equally important are the opportunities of reaching new customers or suppliers and improving the service quality offered to the customers.

4. The impact of macro-environment on logistics situation in Lithuania

The changes in macro environment over the period of 2006-2016 remain an open question requiring more detailed analytic research and works. To summarize, the main two global impact forces are as follows:

- The financial crisis of 2008;
- Embargo introduced in 2014 and economic sanctions against trade with the Russian Federation.

To analyse the consequences of the financial crisis of 2008, it is worth noting that it had a direct impact on transport and logistics sector. On July 2013, it was officially announced that the number of bankruptcies in transport companies over the first half of 2013 has increased by 23 percent – from 65 to 80. Paradoxically, these bankruptcies were linked to intensive establishment of new transportation and forwarding companies – percent growth from 7 to 10. (Source: Romualdas Trumpa, Deputy Director of JSC "Creditreform Lietuva"). Bankruptcies of carriers have increased from 42 to 59 (+40 pct.). Cases of bankruptcies are particularly frequent among Carriers that established companies in 2009 and later. Their share of bankruptcies has doubled from 14 pct. up to 22 pct. At the same time, earlier established companies are more stable: the share of bankruptcies established prior 2004 reduced from 52 pct. to 34 pct. However, information sources indicate that these numbers are incompatible with 2009 when several companies, that managed nearly 20 percent of the overall vehicle fleet, went bankrupt [10].

It is possible to conclude that economic crisis of 2008 created conditions for previously established small enterprises to bankrupt as well as opened possibilities for the establishment of new companies as general competition in market reduced. However, not all of the newly established companies benefited from possibilities imposed by crisis. Another assessment on vitality of Lithuanian transport and logistics sector and ability to adapt to changing conditions is to be made.

Other authors discuss relatively fast recovery of transport and logistics sector after 2008 crisis. According to Krivka, economic crisis had major impact on the indicators of employment, telecommunications, and production of basic metals, food and beverage services as well as air transport, long-term solvency (Table 1). However, the fastest recovery from economic crisis is seen in textile production, land transport and pipeline transportation, forestry and timber preparation, paper and paper production, warehousing and associated services, clothing sewing, production of timber and corks, excluding furniture, waste collection and disposal, food and beverage delivery activities. [11].

Table 1. Researched industries and their relative weights based on value-added by Krivka [11].

Industries	Comparative Weights of Industries based on value added, pct.					
	2006	2007	2008	2009	2010	2011
H49 Land transport and pipeline transportation	7.31	7.24	7.58	7.93	8.28	8.68
H50 Water transport	0.60	0.60	0.44	0.61	0.54	0.52
H51 Air transport	0.13	0.03	–0.09	0.19	0.12	0.12
H52 Warehousing and transport-based activities	2.34	2.42	2.86	3.35	3.67	3.97
H53 Post and Courier activities	0.45	0.39	0.44	0.49	0.48	0.49

The embargo introduced in 2014 and economic sanctions against trade with the Russian Federation affected Lithuanian logistics sector quite strongly. This topic should be analysed separately by considering that most of the processes are still taking place and are more complex than impact assessment of the 2008 crisis. In general, the policy of economic sanctions has made logistics companies of Lithuania to re-orient their activities to Western markets, search for alternative markets in the East–China, Kazakhstan, to invest more into service quality to adapt to Western European standards.

5. Summary and conclusions

1. The surveys were carried out among various categories of personnel, but the majority of people interrogated consist of senior management, middle management, and operational staff. The more or less equal coverage of various categories of personnel make this survey of the high quality and reliable.
2. It is possible to predicate that the biggest part of logistics costs are related with transportation and inventory carrying costs. It depends on the rising prices of the energy recourses and growing consumption. This premise can be right because manufacturing companies identified that biggest growth will be in transportation costs – over 60%, inventory carrying costs – over 50% and logistics administration costs – over 50%.
3. Analyses showed that manufacturing companies mostly need to develop personnel's competence in regards to basic logistics skills, basic concepts linked to supply chain management and supply chain strategy. It could be explained as fundamental demand to better understand business processes and business globalization tendencies.
4. Analyses of development needs of the personnel competence in the trade companies are more or less similar with the manufacturing companies. Requirements for supply chain management and basic logistics are dominating in the needs list.
5. The positive trends of logistics IT systems, product customization, inventory management, warehousing, invoicing, order processing and reverse logistics outsourcing are relevant.
6. 2016 surveys identified that modern ICT usage in in logistics and transportation sectors is widely extended. The biggest problem – costs of modern software. Only big companies can obtain it.

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