Proceedings of the 9th International Conference "Reliability and Statistics in Transportation and Communication" (RelStat'09), 21–24 October 2009, Riga, Latvia, p. 205-210. ISBN 978-9984-818-21-4
Transport and Telecommunication Institute, Lomonosova 1, LV-1019, Riga, Latvia

LOGISTICS SITUATION IN LITHUANIA – REVISERS' POINT OF VIEW

Darius Bazaras[1], Ramūnas Palšaitis[2]

Vilnius Gediminas Technical University
Plytines Str. 27, Vilnius, LT-10105, Lithuania
E-mails: [1]dbazaras@vv.vgtu.lt; [2]trvadyba@ti.vgtu.lt

Surveys of logistics situation in Lithuania have been performed in Vilnius Gediminas Technical University in 2007. This survey discovered mostly relevant problems in logistics: costs policy, logistics competences, and personnel competence development requirements. During this surveys it was identified the positive trends of logistics IT systems development. The product customisation, inventory management, warehousing, invoicing, order processing and reverse logistics outsourcing are relevant. The majority of Logistics companies supposed that their operating environment in Lithuania is enough good. Surveys results indicated that Lithuanian logistics companies have positive tendencies in the self assessment from the different point of view. In this article the main results of this survey are presented. In light of economical crisis of the end of 2008 the main survey results are revised and formed new surveys' directions for future investigations.

***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", which through its international transport corridors connects West and East, as well as South and North European countries. In 2007 Vilnius Gediminas Technical University participated in the international project "LogOn Baltic" and performed wide logistics situation survey. In general surveys' results have showed that logistics situation in Lithuania is enough positive and had good tendencies of the growing. Also the survey uncovered not so optimistically situation with logistics and information – communication technologies situation in Lithuania because level of the implementation of the new modern technologies in business are not enough high. The development of personnel competence in the different business groups was insufficient: personnel need basic logistics skills and basic concepts linked to supply chain management. But at this moment – after two years – it is very important to revise results and evaluate them from the new point of view because situation in the market and general economical situation is changing very quickly and dramatically.

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. The same questionnaire has been used in all regions. Each region had the opportunity to add one or two questions focusing on specific regional issues. The regional reports therefore were slightly different. The survey was mainly conducted as a web-based survey, but mail surveys, phone surveys and interviews had also been used as a complement in some regions. The survey was performed in 2007.

In total 108 companies participated in the logistics survey. By companies size distribution range we can predicate that the biggest part is micro-size companies – 49 % and small-size companies – 30 %, other are the following: medium-size – 17.5 % and large-size – 3.5 %. In the survey 22 % (24) of the respondents represented manufacturing, 33 % (35) trade and commerce and 45 % (49) logistics companies. Favourable opportunities emerge for Lithuania to utilize its geographic position on the Eastern borders of the EU. Another key event was Lithuania entering into EU, which made cargo transportation within the EU easier, more predictable and precise, although somewhat complicating the connections with countries outside the EU.

The different rage of the companies' staff takes part in this survey. The survey is carried out among various categories of personnel, but the majority of people interrogated consist of senior management 33 % (36), middle management 33 % (36), operational staff 21 % (23), experts 1 % (1). The

more or less equal coverage of various categories of personnel makes this survey quite of a high quality and reliable. This coverage influences the competence of answers because the biggest part of respondents are senior and middle level managers (in total 66 %) who have enough experience and information from different company's activity fields.

The main themes of the survey are as follows:

- 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 attention on logistics service providers investigation results because it relates with the main problematical point and assumption that logistics service providers are most sensitive in crisis case.

3. Main Findings from Logistics Service Providers

Survey results allowed predicating that logistics companies provide evolution in standardized service packages; it will increase from 10 % to 20 %. Warehousing services will be in the some positions, but transportation amount will decrease from 60 % to 47 %. Companies are planning that Customized service package will reduce from 11 % to 8 %. Last-mentioned fact is not so good but we can analyse it from different points of views. Firstly, companies trying to optimised their activities and used some standardization issues. Also standardization and orientation to standardized service packages are related with striving to improve quality and use some quality standards. The Lithuania companies are faced with growing personnel costs and lack of the qualified labour force it is understandable that customized services packages are not so welcome. In many cases customized services packages need additional personnel and it's difficult to standardize. It is positive that companies trying to extend own services and deny simple functions as transportation only.

Analysis of relative trends of logistics service outsourcing we can predict that greatest expectations are connected with Logistics IT systems, 3PL/4PL services, international transportation and freight forwarding. In whole all logistics activities are related with additional cost and could be understandable as outsourcing (international transportation, domestic transportation, freight forwarding, order processing, invoicing, warehousing, inventory management, product customisation, 3PL/4PL service). Tendencies are positive for all logistics operations. Especially the big demand of international cargo transportation and logistics information systems development are pre-planned. From another hand – we faced with some misunderstandings between logistics companies and manufacturing and trade companies because the some trends are totally different. For example, freight forwarding, international transportation and domestics' transportation have negative trends in this case. Possible business conflicts between logistics companies and their potential clients are anticipated. It was identified need for better cooperation between logistics companies and their clients. It can be achieved by as follows:

- 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 mostly important personnel competence needs are related with:

- transportation management,
- management of innovations,
- supply chain management.

It is understandable because 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 the logistics companies' profitability is connected with better management and organization structure.

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

It has been noting during the performed analysis the kind of a threat to the largest logistics service companies:

- tightening competition;
- increasing cost of services;
- decreasing demand of logistics 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 understood these threats and possibilities to reduce its. The most important future development is connected with:

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

The majority of logistics companies suppose that their operating environment in Lithuania is enough good. Concerning the opinion to the transport infrastructure about 40 % of respondents could agree that it is quite good quality, but nearly 10 % of respondents assume that transport infrastructure is insufficiently good.

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

Survey results identified not well enough situations 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 is 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.

4. Self Assessment of the Companies

Results of the self assessments of the logistics companies are presented in tables 1–4. According survey results we can predicate that Lithuania logistics companies has positive tendencies in the self assessment from the different points of view. It was quite unexpected but 72 % of companies noticed that their firm was able to meet the quoted or anticipated delivery dates and quantities on a consistent basis. Especially over 70 % of the firms are able to respond to the demands of key customers.

Table 1. Companies' self assessment on complexity in the supply chains

	Much worse	Worse	Neither worse nor better	Better	Much better
My firm has been able to reduce the time between order receipt and customer delivery to as close as zero as	0	2	15	15	11
My firm is able to meet the quoted or anticipated delivery dates and quantities on a consistent basis	0	1	11	19	13
My firm is able to respond to the needs and wants of key customers	0	2	11	19	11
My firm is abel to notify customers in advance of delivery delays and product shortages	0	2	10	17	14
My firm is able to modify order size, volume or composition during logistics operations	1	0	14	14	8
My firm is able to accommodate delivery times for specific customers	0	1	5	17	17

In self assessment on the future of supply chain are dominated positive estimations also. More than 82 % of companies noticed that they regularly monitor and evaluate their logistics costs and performance internally. 87 % of the companies noticed that they regularly monitor and evaluate logistics costs and performance with selected suppliers and/or customers.

Table 2. Companies' self assessment on the future development of supply chains

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
We regularly monitor and evaluate our logistics costs and performance internally	0	0	7	18	15
We regularly monitor and evaluate logistics costs and performance with selected suppliers	0	0	5	24	9
We regularly benchmark logistics performance metrics against our competitors	0	4	12	19	4
Regular monitoring and evaluaton of logistics benefits our firm	0	3	6	23	9
We regularly monitor the environmental effects of our logistics operations	0	3	12	16	4

94 % of the companies identified that they agree or strongly agree with proposition that they effectively share operational information within the firm and internal collaboration of logistics operations is quite good. 63 % of the companies agree that their own information systems provide operational managers with sufficient and timely information to manage logistics activities.

Table 3. Companies' self assessment on internal collaboration in logistics operations

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
We effectively share operational information within our firm	1	1	1	28	15
We are well prepared for internal disturbances and irregularities in our operations	0	4	14	21	2
Our information systems provide operational managers with sufficient and timely information to manage logistics	1	6	5	26	3
Strategic planning and target setting is done in collaboration between functions/ departments	0	3	8	25	5

Some problematical points it was identified on external collaboration of logistics operations: 29 % of the companies disagree and 24 % of the companies do not have clear position about their information systems exchange operational information with selected subcontractors and/or customers.

Table 4. Companies' self assessment on external collaboration in logistics operations

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
We effectively share operational information with selected suppliers and/or customers	1	3	17	20	3
We are well prepared for external disturbances and irregularities in our operations	0	8	14	18	3
Our information systems support the sharing of operational information with selected suppliers and/or	0	12	10	17	3
We effectively collaborate with selectd suppliers and/or customers to facilitate operational planning and to improve	1	7	10	20	3

5. Reviser's Point of View to Situation Changes

Contemporary Lithuania's logistics business system sustained very heavy losses from nowadays economical crisis which started in the second part of 2008. Probably that the researcher still has not reliability data about crisis influence to logistics business and market situation in general, because time period for surveys is too short. On the basics of 2007 year survey results it is possible to make the assumptions for estimation of the situation.

Firstly, the crisis impact for logistics business in Lithuania was very sudden but expected – some logistics companies expected negative changes in the market. Managers of logistics companies noticed that logistics business growth was very intensive and related with tricky logistics projects. For instant according to statistics Lithuania Gross Domestic Product (GDP) in 2006 against 2005 grew by 7.7 %. In the economic activity of transport and warehousing the GDP at current prices in 2006 accounted for LTL 7.3 billion, while in that of post and telecommunications – LTL 2.1 billion. In 2006 a relative share of transportation and warehousing amounted to 9.9 % of GDP, while that of post and communications – 2.9 %. In 2006 the GDP in transport and warehousing increased by 12.2 % while in post and communications against 2005 – 6.2 %. Plausible these figures were indicators of the "gold age" in Lithuania logistics development and it will be not in the nearest future.

In the first stages of economical crisis the total consumption become sinking down and it made influence to logistics companies directly – a number of orders started to diminish. This situation made influence to competition in the logistics market. In 2007 the largest threats to logistics services were tightening competition and decreasing in the demand of logistics services. It shows that companies' "feeling of the situation" are correct.

Another new actual point for analysis is the personnel. In 2007 Lithuania logistics companies have been faced with growing personnel costs and lack of the qualified man power but now – situation have changed crucially. The second crisis results after slow down consumption is unemployment. Joblessness is changing the needs for personnel and point of view to workplace maintaining. We can expect that personnel cost will decrease and companies will have possibilities to select competent employees from overfull labour market. Plausible that logistics companies will change personnel training policy – they will try to find qualified employees and save money for training.

In general crisis will have big influence to logistics market in Lithuania because the main conclusion in 2007 survey is that survey passed permissions that trade companies are acting in the enough stressful market conditions; the manufacturing companies has found own place in the market; logistics companies are on the own market formation process. From one hand crisis will change balance of the logistics' market participants dramatically – weak companies will be bankrupt and companies with qualified personnel will survive. From the other hand – for new logistics companies after crisis will emerge free space in the market. In general we can predict that crisis will create clearer and stronger logistics market in Lithuania.

As it was mentioned above – that these points of view to changes in logistics market in Lithuania are theoretical only. But it is good basement for revision of the previous surveys results and creation more detailed and clear model of the logistics situation and its transformation.

6. Summary and Conclusions

1. The survey has been carried out among various categories of personnel, but the majority of people interrogated consist of senior management 33 %, middle management 33 %, and operational staff 21 %, expert 1 %. The more or less equal coverage of various categories of personnel makes this survey of the enough 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 the biggest growth will be in transportation costs – over 60 %, inventory carrying costs – over 50 % and logistics administration costs – over 50 %.
3. Analyses show that manufacturing companies mostly need develop personnel's competence of basic logistics skills, basic concepts linked supply chain management and supply chain strategy. It could be explained as fundamental demand to better understanding of business processes and business globalisation 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 customisation, inventory management, warehousing, invoicing, order processing and reverse logistics outsourcing are relevant.
6. Survey results show and confirm prediction that Lithuanian manufacturing companies are more optimistic in comparison with trade companies. 79 % of the manufacturing companies estimated the general business perspectives as good.
7. The trade companies' opinions on their operating environment are the same but this group of the companies identified more problems in the transport infrastructure: ~7 % of the trading companies estimated situation as poor, and the same percent estimated general business perspectives as poor.
8. Modern ICT are used insufficiently. We can not declare that modern technologies, except mail/phone/fax and e-mail, are unused but level of the using modern IT technologies is still low.
9. Over 60 % of companies understand positive side of monitoring of the impact of supply chain management on the results of their logistics activities. It has been identified that Lithuania companies are not sure that they can make correct solutions and are prepared for external disturbances. Approximately 45 % of the companies declared that they are not prepared for external disturbances and irregularities in their operations.
10. According survey results we can predicate that logistics companies provide evolution in standardized service packages, it will increase from 10 % to 20 %. Warehousing services will be in the same position, but transportation will reduce from 60 % to 47 %. Also companies provide that customized service package will reduce from 11 % to 8 %.
11. Logistics companies accented that the mostly important personnel competence needs are related with transportation management, innovations and management changes and business strategy.
12. Crisis will have big influence to logistics market in Lithuania. Trade companies are acting in the stressful enough market conditions; the manufacturing companies have found their own place in the market; logistics companies are on the own market formation process.

References

1. Bazaras, D., Palšaitis, R., Solakivi, T. *LogOn Baltic Regional reports 24:2007*. ICT SURVEY IN LITHUANIA. Turku School of Economics, 2007, p. 52. ISBN 9789515644909 (electronic version).
2. *Statistics Lithuania*. 2006 Transport and Communications. Vilnius, 2007, p. 180. ISSN 1648-0279.
3. Transport infrastructure and information technologies development in the Lithuania. In: *Proceedings of the 7th International Conference Reliability and Statistics in Transport and Communication*. Riga. Latvia: TTI, 2007. pp. 33-37.
4. Palšaitis, R., Bazaras, D. Theoretical aspects of logistics training process management, *Transport*. 2007, Vol. XXII, No 1, pp.14-18. ISSN 1648-4142.
5. Palšaitis, R., Ledauskaitė, K. Research of Market Demands for Transport Management Specialists. In: *"TransBaltica 2005". VIII International conference. Conference Proceedings*. Riga, 2005, pp.317-319. ISBN 9984-9725-9-3.
6. Adomonienė, R. Analysis of economists and managers preparation quality, *Economics*, No 58. 2002, pp. 7-18. (In Lithuanian)
7. Palšaitis, R., Šakalys, A. Development of Intermodal Transport in New European Union States. *Transport,* 2006, Vol. XXI, No 2, pp.148-153. ISSN 1648-4142.
8. Palšaitis, R. Logistics in Lithuania. In: *Proceedings of the Nordic – Baltic Transport Research Conference. 13–14 April 2000, Riga, Latvia, Vol. 1.* Riga, 2000. ISBN 9984-668-13-4.
9. Lingaitis, L. P., Bazaras, D. An analysis of reverse and green logistics: theoretical aspects. In: *Transport: prace naukowe / Politechnika Warszawska, Z. 60. Transport w systemach logistycznych.* Warszawa, 2007, pp. 5-12. ISSN 1230-9265.
10. Bazaras, D., Palšaitis, R. Research's aspects of logistics service development. In: *Proceedings of the international conference "Reliability and statistics in transportation and communication" (RelStat' 04), 14–15 October 2004 Riga, Latvia: programme and abstracts.* Riga: Transport and Telecommunication Institute, 2004, p. 113. ISBN 9984-668-76-2.
11. Bazaras, D. Evolution of Logistics Systems and Perspectives of the Logistics Service Market in Lithuania. In: *Proceedings of the Conference "Transbaltica 2006"*. Vilnius: Technika, 2006, pp. 48-57. ISBN 9986-05-967-4. (In Lithuanian)
12. Solakivi, T. *Finland, State of Logistics 2006, the fourth national logistics survey*. Note No 4, Issued 12.12.2006 – www.logonbaltic.info.
13. Bowersox, D. J., Closs, D. J. *Logistical management. The Integrated Supply Chain Process.* The McGrawHill, Inc., 1996.