



Publications

3:2008

## LOGISTICS SURVEY IN ST. PETERSBURG

Authors: Honoured Scientist of the Russian Federation, Dr.Tech.Sci., Associate  
Professor *V.S. Lukinsky*

Cand.Econ.Sci., Assistant Professor *N.G. Pletneva*

Department of Logistics and Organization of Conveyances at St Petersburg State  
University of Engineering and Economics

M.Sc. Tomi Solakivi, Turku School of Economics

© *Lukinsky V.S., Pletneva N.G. St. Petersburg*

Turku School of Economics

Rehtorinpellonkatu 3

FIN-20500 Turku

Published by

LogOn Baltic

Turku School of Economics

Rehtorinpellonkatu 3

FIN -20500 Turku

[www.logonbaltic.info](http://www.logonbaltic.info)

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Printed by:

ISBN 978-951-564-499-2

UDC Logistics, ICT, Regional Development, Baltic Sea Region



## EXECUTIVE SUMMARY

**This report** is a part of the LogOn Baltic Project, which is sponsored by EU. Research aim resulted at the present report was getting estimation of St. Petersburg's logistics development in several directions:

- a) estimation of logistics efficiency;
- b) estimation of the conditions of logistics operations regional implementation;
- c) determination of the most important logistics competences for a company development;
- d) determination of the tendencies of logistics outsourcing changing in a region;
- e) estimation of the enterprises satisfaction degree in today's position and collaboration possibilities in the supply chains.

**Within the limits** of the conducted research 88 companies were asked with the questionnaire design. The questionnaire results were processed by Turku School of Economics with the methods worked out by organization specialists, and used for estimation of questionnaire results for the companies in all Project regional partners. Questionnaire results are presented in the report as histograms, tables and its comments made by report authors.

**Results of the researches** can be suit in the estimation of today's position and tendency of logistics development in St. Petersburg by companies projected the product supply chains in a region and scientists, who are interested in the same logistics problems. Also, results based on competence approach can interest authors of 3rd generation educational standards.

## EXECUTIVE SUMMARY- (RUSSIAN)

**Этот отчет является** частью проекта LogOn Baltic, финансируемого Европейским Союзом. Целью исследования, результаты которого отражены в настоящем отчете, являлось получение оценки развития логистики в Санкт-Петербурге по нескольким направлениям:

- а) оценка эффективности логистики;
- б) оценка условий осуществления логистических операций в регионе;
- в) определение наиболее значимых для развития предприятий логистических компетенций;
- г) определение тенденций изменения логистического аутсорсинга в регионе;
- д) оценка степени удовлетворенности предприятий состоянием и возможностями сотрудничества в цепях поставок.

**В рамках проведенного** исследования было проведено анкетирование 88 предприятий. Результаты анкетирования были обработаны Turku School of Economics по разработанной специалистами этой организации методике, использованной для оценки результатов анкетирования предприятий во всех регионах-участниках проекта. Результаты анкетирования представлены в отчете в виде гистограмм, таблиц и комментариев к ним, выполненных авторами отчета.

**Результаты исследований** могут быть полезны при оценке состояния и тенденций развития логистики в Санкт-Петербурге предприятиями, проектирующими цепи поставок продукции в регионе, и учеными, занимающимися аналогичными проблемами логистики. Также результаты могут заинтересовать разработчиков образовательных стандартов третьего поколения, в основе которых лежит компетентностный подход.

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## INTRODUCTION

### *Project introduction –LogOn Baltic*

This study is a part of the LogOn Baltic project. The LogOn Baltic project was approved within the Baltic Sea Region (BSR) INTERREG III B Neighbourhood Programme, which is sponsored by the European Regional Development Fund (ERDF), as part of the Structural Funds, and co-financed by national project partners.

The purpose of LogOn Baltic is to present solutions to improve the interplay between logistics & ICT competence and spatial planning and strengthening Small and Medium-sized Enterprises (SMEs) competitiveness in the BSR. This is primarily done by the production and dissemination of information for regional development agencies on how to support enterprises in the participating regions in the field of Information and Communications Technologies (ICT) and logistics, thus improving regional development.

The following regions are participating in the project:

- South-West Finland
- Östergötland
- Denmark
- Hamburg
- West-Mecklenburg
- North-East Poland
- Lithuania
- Latvia
- Estonia
- St. Petersburg

LogOn Baltic provides an overview of logistics efficiency and logistics information systems and their exploitation, in order to improve the interaction between SMEs and other public/private actors.

On the one hand, the empirical activities of LogOn Baltic compare the existing logistics services and infrastructure with the logistics needs in the participating regions, making it possible to develop perspectives and action plans for strengthening the logistics competence in the regions. On the other hand it describes the existing ICT infrastructure and services, revealing up to what extent they meet with the companies' needs for further development. In this way, LogOn Baltic focuses on:

- a) identifying development agencies and evaluating their performance in each region
- b) evaluating the level of logistics and ICT efficiency
- c) suggesting concrete actions for regional and local public sector bodies

Data are gathered in each participating region using four tools, Logistics survey, ICT survey, DEMIA and expert interviews; each of these is presented in a separate report. These results together with secondary data is presented in a regional report, that will describe the state of affairs in the region, with recommendations on what and how the region needs to develop. The regional reports are used as a basis for making an interregional comparison which is reported in an inter-regional report. All reports are available on the project homepage, [www.logonbaltic.info](http://www.logonbaltic.info).

### *Regional partner introduction*

The regional partners in St. Petersburg: St. Petersburg State University of Engineering and Economics. St. Petersburg State University of Engineering and Economics is one of the leading institutions of higher education in Russia in the field of logistics. The department of Logistics and Supply Chain Management specialises in logistics in transportation systems, inventory management as well as supply chain management. The department carries out scientific research in the above-mentioned fields, organises international theoretical and practical conferences devoted to the issues of modern logistics.

### *Logistics survey introduction*

The survey is one of four tools for primary data collection, reflecting the current status and needs of logistics in the business community in the region. Three versions of the survey have been used, focusing on the following three types of companies:

- a) Manufacturing/construction companies
- b) Trading companies
- c) Logistics service providers

The questionnaires consists 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 has had the opportunity to add one or two questions focusing on specific regional issues. The regional reports will therefore differ slightly.

The survey is mainly conducted as a web-based survey, but mail surveys, phone surveys and interviews has also been used as a complement in some regions.

This is by far the largest survey conducted in the Baltic Sea Region in the field of logistics. In this report data and analysis will be presented for one region only.

The data is also used to make a cross-regional analysis, focusing on differences and similarities between the regions. The cross-regional analysis is presented in a separate report available at the project homepage [www.logonbaltic.info](http://www.logonbaltic.info).

## SURVEY DESIGN

### *Target group and sample*

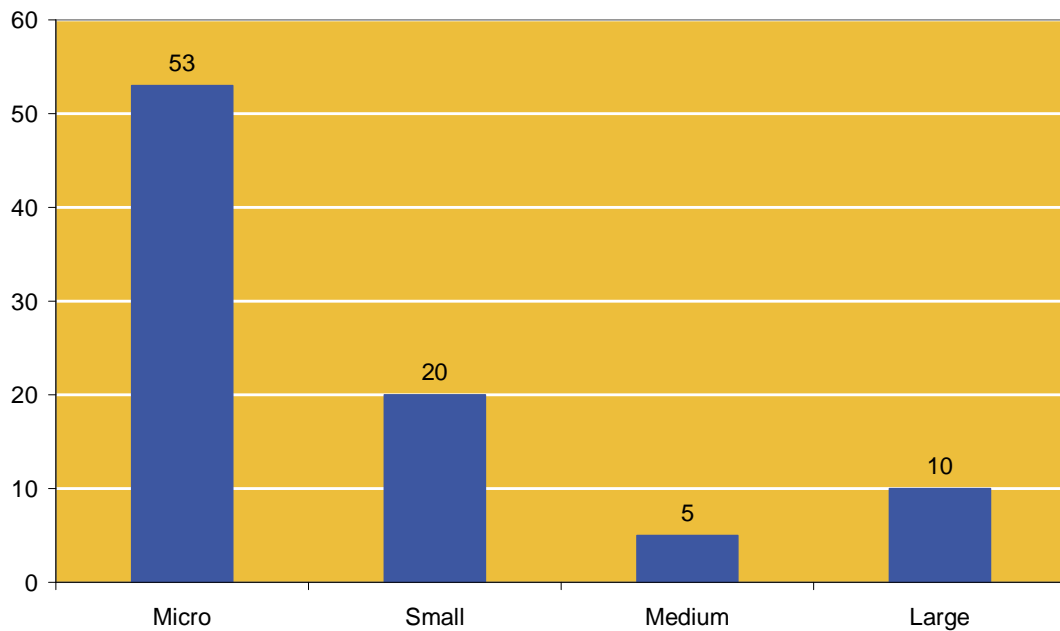


Figure 1 Number of respondents according to company size

The respondent distribution is done according to the turnover of the company. The largest proportion of the respondents belongs to the category “micro”, namely small firms with the turnover ranging from 0 to 5 million euro. Such a distribution is not accidental in view of the fact that most respondents when asked about the turnover chose the minimal option provided in the question instead of stating the actual turnover. Besides, many respondents agreed to take part in the survey only on condition that they would not have to answer the question about the turnover. The reason for this is the tradition of considering the information about the profit and turnover of the company as a trade secret, which is customary to the business environment.

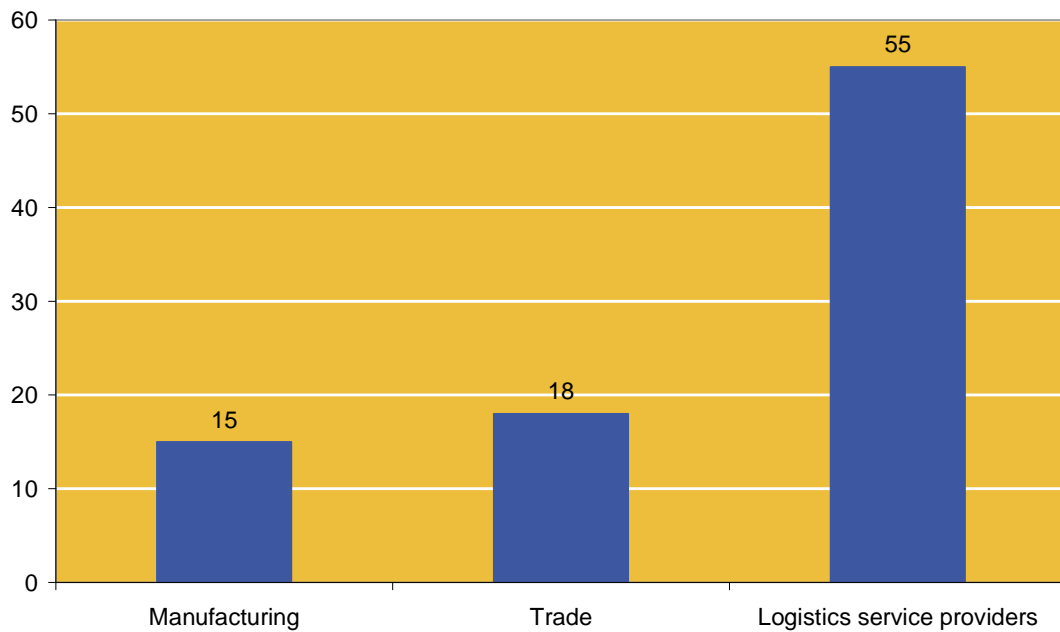


Figure 2 Number of respondents according to main industry

As it can be seen in Figure 2, the group most represented in the survey is logistics service providers. The prevalence of logistics operators can be partly attributed to the profile of the workgroup engaged in the distribution of questionnaires. Besides, several trade and manufacturing companies refused to take part in the survey due to the question about the turnover of the company. Thus, Figure 2 does not indicate the actual distribution of the companies in the region on the main industry basis.

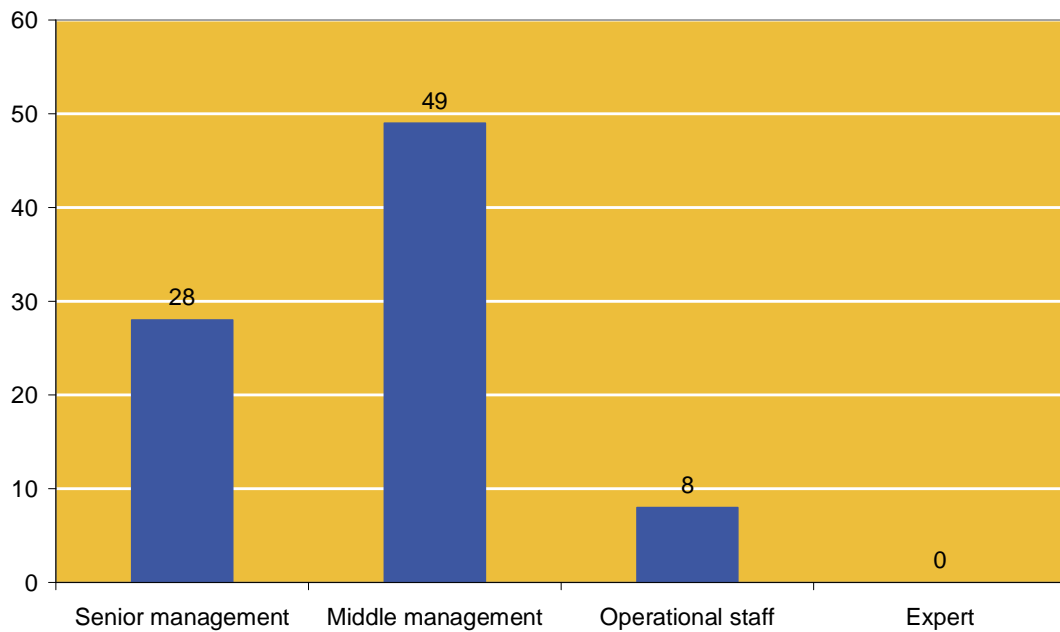


Figure 3 Number of respondents according to respondent's position in the company

The largest group of the respondents is middle management. This result is quite expected since the representatives of middle management, on the one hand, possess sufficient information about the company, and, on the other hand, are more willing to communicate. It is the group to whom senior management tend to delegate the responsibility to take part in the survey, although it was senior management whom the organisers of the survey addressed.

A high proportion of senior management among the respondents can be explained by the fact that a big number of logistics service providers, mainly represented by transportation companies, took part in the survey. The transportation services market is characterized by a large number of small firms with a minimum number of managers. Such companies employ 1-2 managers, and each of them could be referred to as a senior manager in accordance with his/her responsibilities.

### *Main themes of the survey*

The questions concerning manufacturing companies and trade companies are similar and will be reported in chapter 4. The findings from the logistics service providers will be reported in chapter 5.

The main themes of the survey are:

- Current logistics costs and their development
- Key logistics indicators, including lead times, 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 to what extent they are coordinated.



## FINDINGS FROM MANUFACTURING AND TRADE

### *Logistics costs*

#### Logistics costs Manufacturing

Unfortunately, it is impossible to present the structure of the logistics costs of manufacturing companies since the respondents did not take into account the precondition of the answer on the respective question, namely the necessity of a one hundred percent result of the summing of cost shares attributed to various types of logistics functions. In our opinion, there are two reasons for that. Firstly, the survey methodics takes into account the psychology of the respondent; thus, when planning the survey one has to avoid situations and questions where the respondent not only must think about the answer, but also perform some calculations. It is especially important when the number of questions in the questionnaire is big. Secondly, it is not fully correct to presuppose that the result of the summing up of the percentages corresponding to the types of logistics costs mentioned in the questionnaire will be equal to one hundred, since the questionnaire does not contain all the types of logistics costs. Among the missing cost types one can mention costs associated with logistics risks, logistics service support costs (for instance, after-sale support), IT-support costs, quality standard support costs and other types which are singled out at companies in accordance with the logistics methodology used in the Russian Federation. Besides, there is no unified approach to the structure and breakdown of logistics costs in Russia.

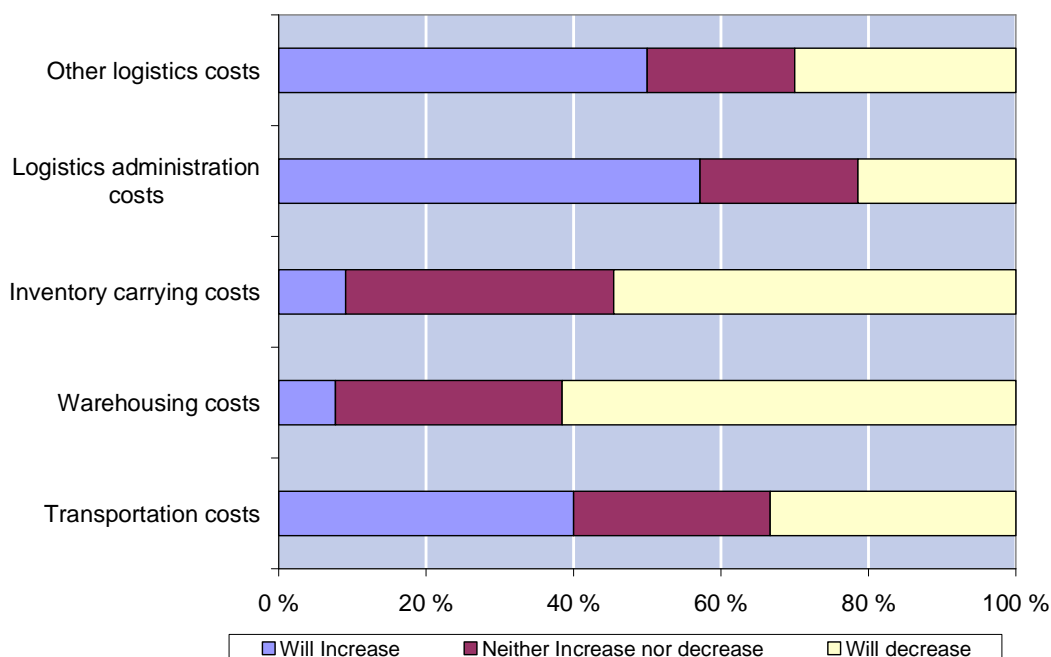


Figure 4 Estimate of the development of logistics costs, manufacturing companies

Before one begins to analyse the development of logistics costs, a certain inadequacy of the translation of the questions relating to costs has to be pointed out. In the Russian version of the questionnaire one type was missing, namely inventory carrying costs, which is one of the most significant components of the logistics costs. This is characteristic not only of Russian enterprises, but also of all the countries, which is supported by the world statistics. The English version of the questionnaire contains inventory carrying costs; however, this term has been translated into Russian as "Inventory taking costs". By inventory taking one means checking the presence of equipment, technical assets, stock, supplies etc by a certain date, as a rule, by the beginning of the year, quarter, month etc. Inventory taking (checking) costs are a part of warehousing costs. The answer given by our respondents is quite logical – they think that the costs of checking the presence of assets and resources should decrease, not in the least because of the fact that the warehouses are being equipped with new information and computer technologies which simplify the procedure of inventor taking. However, we did not succeed in finding out the pattern of the development of inventory carrying costs. It is possible that the inadequate translation was the reason for inappropriate answers on the previous question.

The answers on the questions in the questionnaire reflect the current logistics trends: a shift of inventory in the distribution channels to the end-consumer, a shift to a more rational resource planning as well as planning of production in accordance with a specific order. A decrease in inventory leads to an increase in transportation costs, which has been reflected in the answers.

An increase in the logistics administration costs is necessary, which has been pointed out by the respondents. The reason for this is the fact that logistics is an instrument utilised by manufacturing companies in competitive activity as well as a source of cost diminishing. Besides, logistics goes together with a new field of management – supply chain management, which is perceived as having a lot of prospects for manufacturing companies in the first place. The increase of other logistics costs has similar reasons.

#### Logistics costs Trade

It has been impossible to analyse the structure of logistics costs of trade companies due to the reasons analogous to those of manufacturing companies.

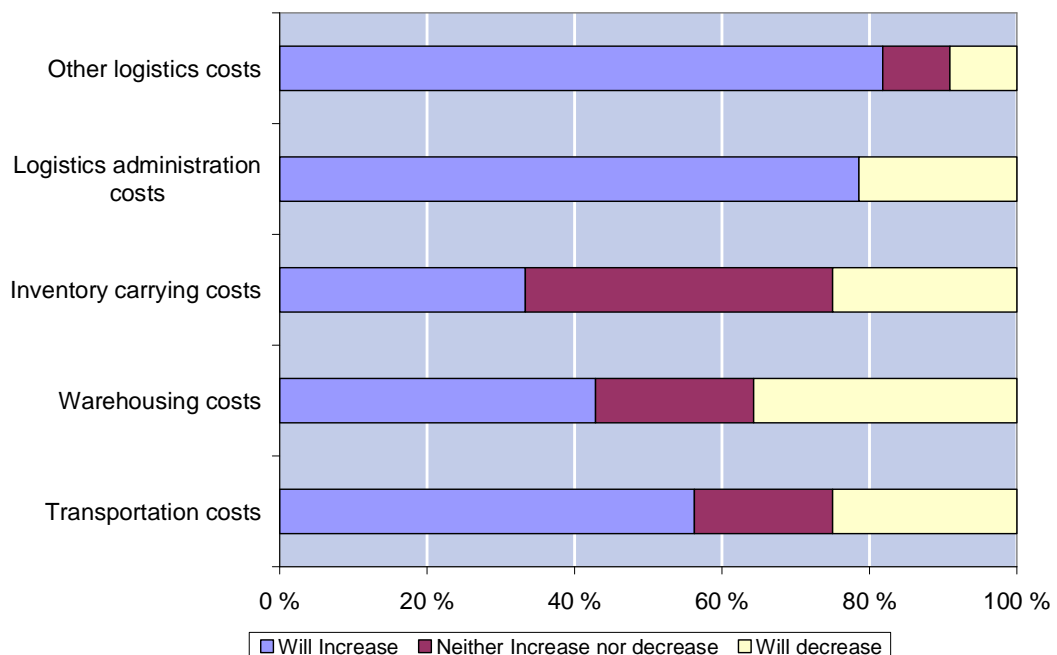


Figure 5 The estimate of the development of logistics costs, trading companies

More than 50% of the representatives of trade companies reckon that by the year 2010 transportation costs will have increased. This is attributed not only to the fact that the decrease in inventory will lead to more frequent orders, but also to the broadening of the assortment, which is one of the elements of a more high-quality buyer service. Broadening the assortment leads to an increase in the number of suppliers from whom one has to deliver goods.

None of the representatives anticipates a significant increase in inventory carrying costs, the reasons for this being the same in the case of manufacturing companies. Most of the respondents (42%) think that the inventory taking (inspection) costs will stay the same in the structure of logistics costs, since the checking of goods in stock is a necessary operation which will always be performed in a trade company no matter how the economy develops.

79% of the respondents point out the increase in logistics administration costs. This suggests that in the future trade companies plan to pay more attention to logistics than now. The number of logistics competences is increasing; besides transportation, inventory carrying, warehousing etc., logistics covers such fields as purchasing and reverse flows. The logistics function of demand forecasting is gaining particular importance. An increase in the number of logistics competences will inevitably lead to an increase in logistics administration costs.

## Logistics competence

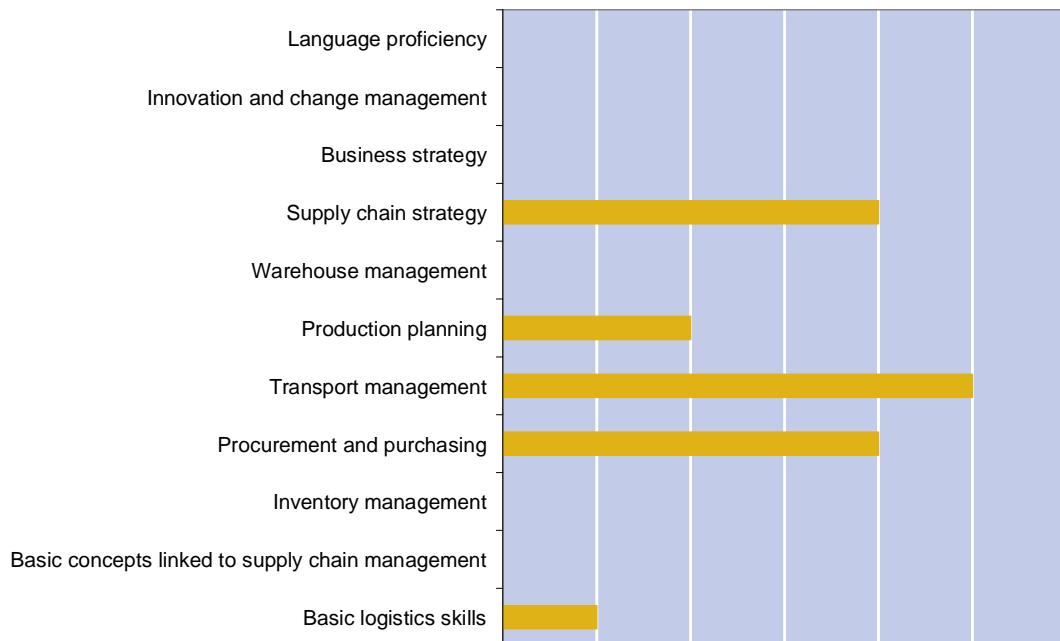


Figure 6 The development needs of personnel competence, manufacturing companies

On the basis of the data obtained as a result of the analysis of the questionnaires from the representatives of manufacturing companies, one can conclude the most important competence of the company personnel as perceived by 31% of the respondents is production planning. Planning is traditionally an integral function of a successful management of any kind of company, that is why a big percentage of answers pointing out its importance is quite logical.

25% of the respondents single out such skills as transport management and business strategy skills. Product delivery organisation is not a key-skill for a manufacturing company, although many enterprises are beginning to consider optimisation of the transportation activity of respective departments. Many firms solve the logistics task “Make or buy” and come to the conclusion that a development of its transportation is needed, thus an increase in the demand for personnel having skills in the field of transportation management. Business strategy is of the most topical issues of modern management. It is the strategy that determines future success and prosperity of the company; that is why manufacturing companies pay particular attention to this issue.

12.5% of the representatives of manufacturing firms point out the necessity of professional skills in the field of warehouse management. On the one hand, a small percentage of the respondents can be explained by the fact that nowadays many companies have already solved the problems of logistics management at the warehouse. Despite the fact that warehouse management as well as transportation management is not a key skill for a manufacturing company, the problem of warehouse management is usually solved before the transportation problem according to the working practice. On the other hand, a number of enterprises do not yet realise the necessity of improving the work of auxiliaries, such as warehouses, and no more do they consider that specific professional competences of logistics managers are needed for the warehouse work.

With regard to the fact that a large group of the respondents consists of middle and senior management, the interest to basic logistics concepts can be attributed to the attention paid to modern logistics at companies. However, the percentage of the respondents who pointed out the skills in the field of basic logistics concepts is not big enough – 6.5 %.

Sadly enough, none of the respondents reckon that his/her company need such competences as: procurement and purchasing, supply management, supply chain strategy, innovation and change management as well as language and basic logistics concepts knowledge. As far as purchasing activity is concerned, at most companies this kind of activity is not associated with big problems, since if there is no deficit, most part of the materials can be purchased without any problems, the more so because the purchasing is done in the conditions of the buyer market. In the field of provision most problems are associated with inventory management rather than purchasing; however, the Russian questionnaire did not have a question about inventory management skills. Instead, there was a question on inventory taking which is so insignificant that none of the respondents pointed out the importance of such skills.

A great pity is that the skills associated with supply chain strategy and change management are not yet considered as first-priority skills.

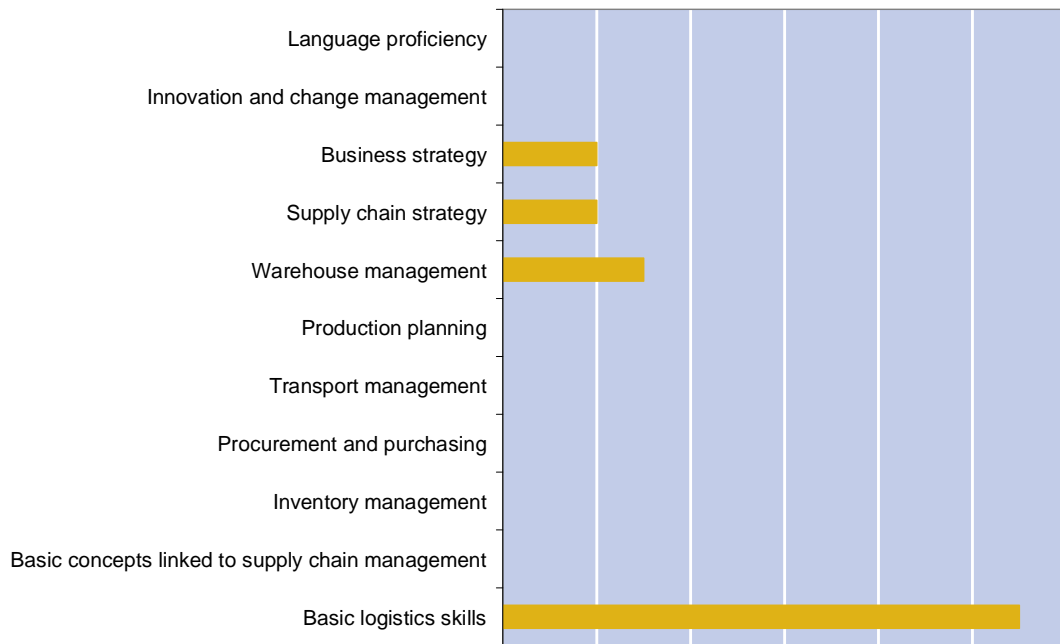


Figure 7 The development needs of personnel competence, trading companies

61% of the representatives of trade companies point out the importance of skills associated with basic logistics concepts, 17% point out skills in the field of supply chain strategy. This supports the fact that trade companies possess a big experience of logistics management, realise that logistics management is necessary and have a sound picture of what kind of skills a logistics manager should have. The specificity of the trade business is that the possibility of commercial risk increases significantly without a well thought-out supply strategy as well as close and flexible relations with the suppliers.

Both the skills in the field of business strategy and innovation and change management have obtained 11%. These skills are partly similar, because at the buyer market with a high level of competition between the firms trade companies have to develop a business strategy based upon adaptation to changes in the market environment and buyer preferences.

None of the respondents reckon that his/her company needs such competences as: Basic logistics concepts, inventory management, procurement and purchasing, transportation management, production planning, language proficiency. As a rule, trade companies do not have own transport (the delivery is done by the supplier) and production, that

is why the respective skills are not of importance to such firms. Procurement and purchasing is one of the major fields of activity of a trade company where professionals are employed, that is why the representatives of trade companies do not consider these skills as necessary, as in urgent. Basics of logistics and linguistics proficiency are quite undefined skills. Maybe, if the questionnaire had contained a different option, namely, “business language knowledge”, instead of “language proficiency”, the question would have drawn more attention. As far as inventory taking is concerned, checking the presence of goods does not require specific professional skills.

### *Outsourcing of logistics operations*

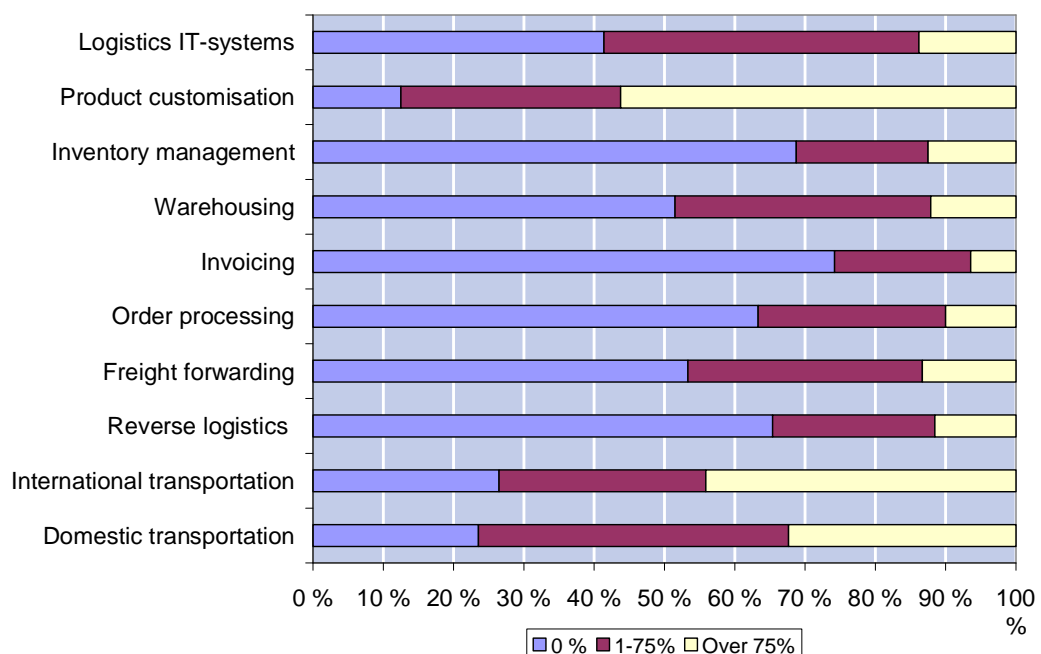


Figure 8 Outsourcing of different logistics functions, companies in St. Petersburg

The biggest percentage of functions outsourced by manufacturing and trade companies is attributed to customs procedures (53% of the respondents outsource more than 75% of the operations, 29% outsource from 1% to 75% operations) as well as domestic transportation (32% percent of the respondents outsource 75% of operation and 44% outsource from 1% to 75% of operations). Thus, the survey data supports the view that transportation operations are not regarded as key activities, and more than 75% of such operations are



performed by external organizations, such as professional cargo carriers and customs brokers.

More than the half of the respondents point out the outsourcing of IT service functions (38% of the respondents outsource from 1 to 75% of the operations, 12% outsource more than 75%). The results prove that IT-systems specific knowledge and personnel and technical support, and the companies are better off using the services of external specialists than supporting IT-systems by themselves. This trend reflects the world trends of outsourcing development.

47% of the respondents outsource the warehousing function to external organizations (35% outsource from 1 to 75% of the operations, 12% outsource more than 75%). This also supports the general trend concerning non-key skills which are outsourced to professional operators.

Around 68% of the representatives have stated that they do not outsource invoicing, 65% do inventory management themselves (checking the presence of stocks, equipment, inventory etc), 56% do not outsource order processing, 50% do not outsource reverse flows.

It has to be noted that a relatively big percentage (47%) of the company representatives have stated that they do forwarding orders themselves (in the Russian questionnaire by forwarding orders is meant "Freight forwarding" which should have been translated more precisely pointing out that it is the organization of freight that is meant and not the fulfillment of delivery. If the translation had been more precise, we would have obtained a different distribution of answers reflecting the actual attitude of companies to freight forwarding. The obtained results contradict to the real situation.

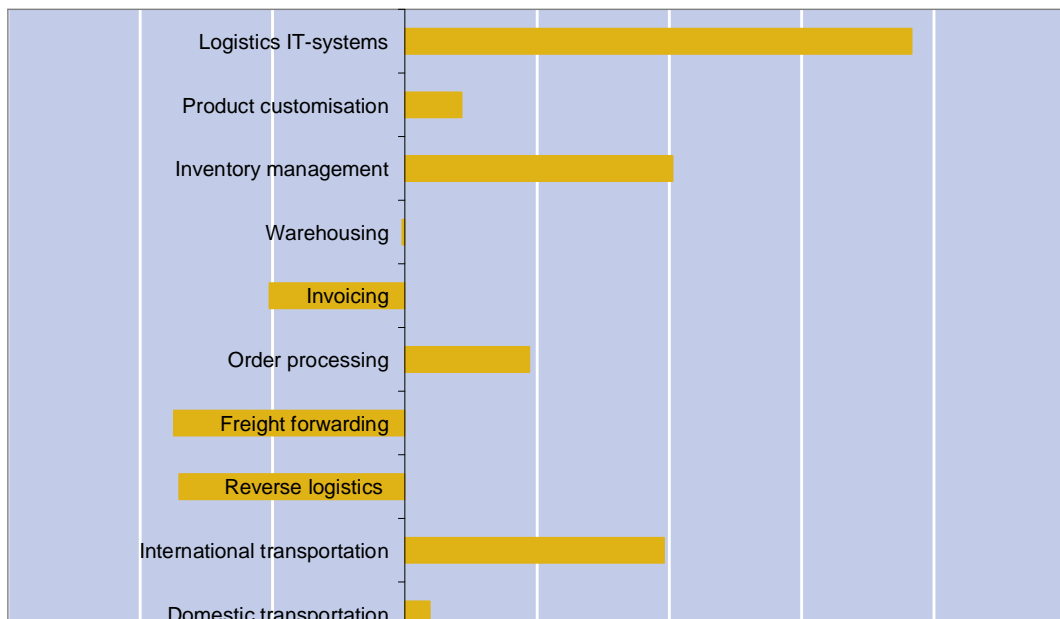


Figure 9 The relative trend of outsourcing, companies in St. Petersburg

Figure 11 shows that by 2010 the number of companies outsourcing IT-services will increase. 62% of the respondents have stated that they outsource the IT-support of logistics. The number of companies outsourcing international transportation to professional carriers will also increase (the percentage of enterprises engaged in international transportation for own needs has decreased from 27.5 % to 14%).

Enterprises also see the possibility of outsourcing inventory taking - the share of such companies has increased by 6 percent. The percentage of companies outsourcing domestic transportation and customs procedures is also going to increase.

The percentage of companies outsourcing the following functions is said to decrease: invoicing (from 23% to 17% of the respondents), reverse logistics (from 26% to 17% of the companies) and freight forwarding (from 41% to 32% of the companies).

## Operating environment

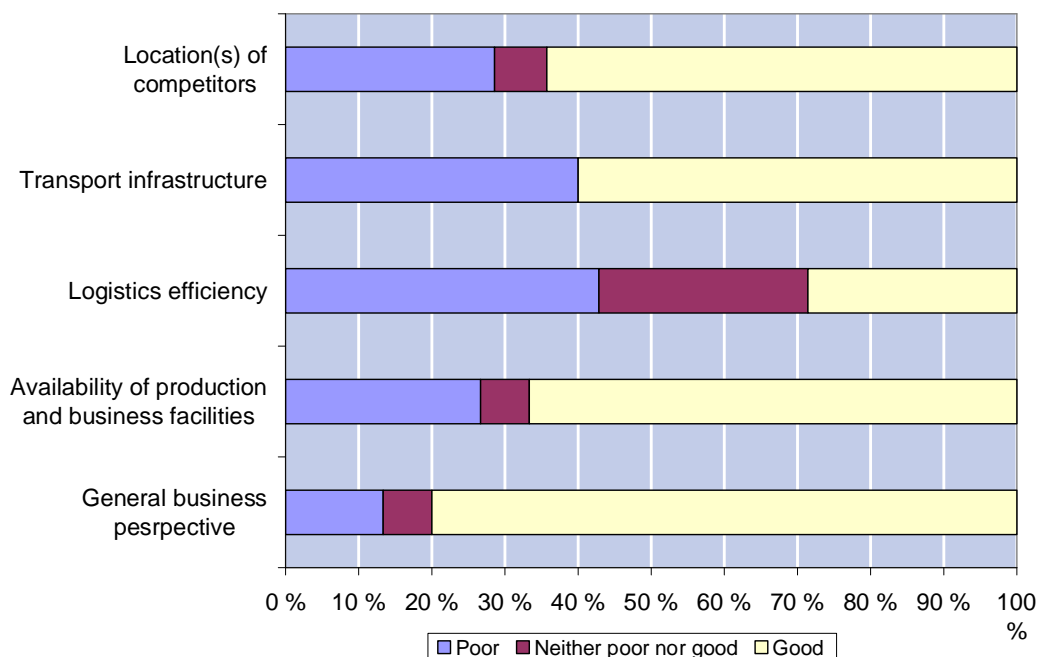


Figure 10 Manufacturing companies' opinions on their operating environment

As a whole, the manufacturing companies positively evaluate the external conditions in which they operate. The economical conditions being formed in Russia allow to positively evaluate general business perspective (80% of the respondents). Availability of production and business facilities and location of competitors have also been evaluated positively (67% and 64% respectively).

40% of the manufacturing companies point out poor conditions of transport infrastructure, 43% state low efficiency of logistics. At the same time 60% of the respondents evaluated transport infrastructure as good and very good, whereas logistics efficiency has been evaluated as good by only 28.5 % of the respondents, the same percentage have evaluated the same indicator as neither good nor bad. This proves the fact that we need to modernise the existing objects of transport infrastructure and build new ones (roads, interchanges etc.), improve the work of road services etc. A negative evaluation of the logistics efficiency as external conditions for business development suggests that the market of logistics services is not developed enough.

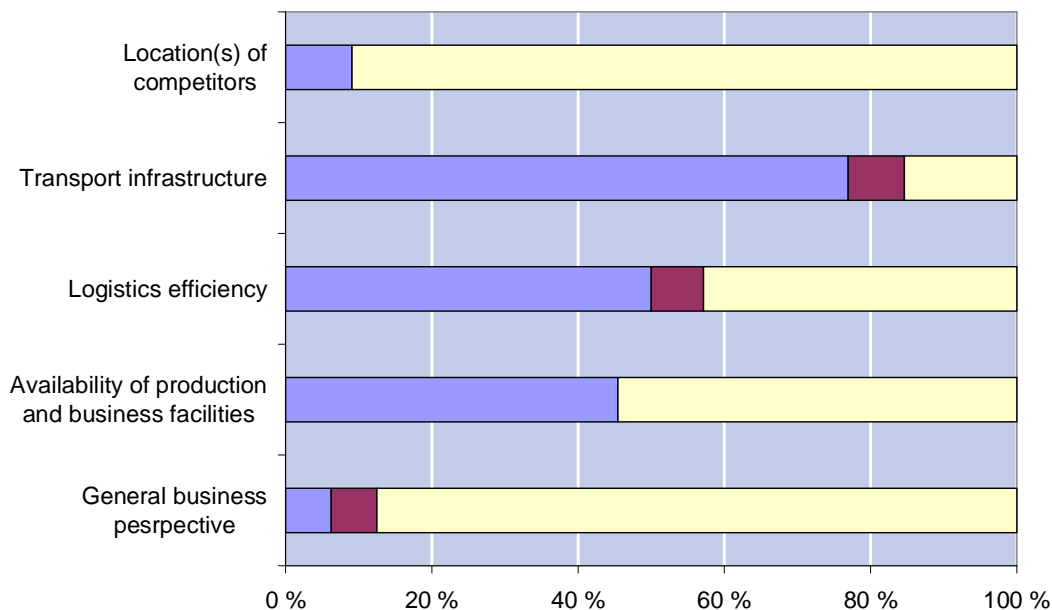


Figure 11 Trading companies' opinions on their operating environment

Trading companies have also evaluated external conditions for business functioning as good: competitors location (91%) and general business perspective (88%) have been evaluated as good and very good. Availability of production and business facilities and logistics efficiency have also been evaluated positively (55% and 43% respectively). At the same time both of these parameters have a high percentage of negative evaluations. 45% of the representatives of trade companies gave a negative evaluation of the availability of production and business facilities. 50% of the respondents evaluated the efficiency of logistics as poor. This suggests that the problems of conditions for activity, among other problems with logistics service, are very urgent in this sector, although negative evaluations of logistics as an element of external conditions constitute one of the reasons for the development of independent logistics subdivisions.

Transport infrastructure have also been evaluated as poor by the representatives of trade companies: 79% evaluated it as poor, 14% evaluated it as good. Trade companies own or rent warehouses outside the central part of the city, which can be explained by the price of the land and a high rental fee. That is why product delivery is an essential component of trade business functioning which above all faces traffic jams in the streets, the absence of the completed ring road, a lack of convenient and well-planned interchanges.

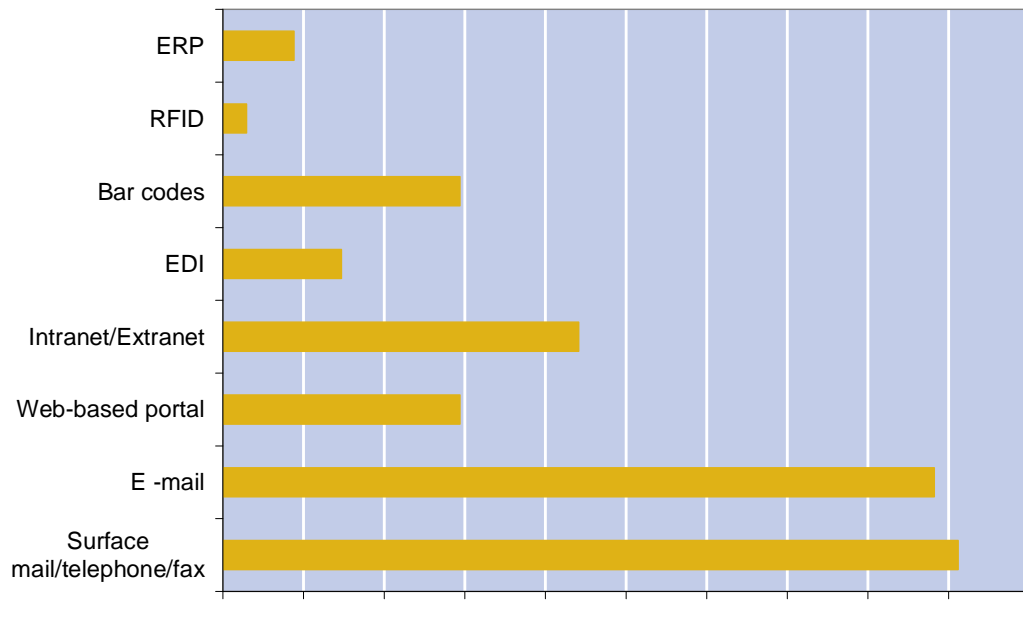


Figure 12 The usage of different ICT-systems, manufacturing and Trading companies in St. Petersburg

Most of the respondents use telephone, fax, mail (91 % of the respondents) and e-mail (88 %) on a daily basis in the supply process administration. A medium level of intranet use (44%), internet (29%) and bar codes (29%) is seen at the figure. Among the systems used less commonly are the EDI (15%), ERP (9%) and RFID (3%).

The results presented at Figure 14 quite adequately reflect the breakdown of the systems used in the process of supply management. Many companies cannot afford to purchase expensive systems, such as RFID, most of the respondents represent companies with a relatively small turnover.

## Self assessment of the companies

Table 1 Companies' self assessment of transparency in the supply chain

	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	0	2	4	16	4
My firm is able to meet the quoted or anticipated delivery dates and quantities on a consistent basis	0	1	6	15	5
My firm is able to respond to the needs and wants of key customers	0	1	1	18	10
My firm is able to notify customers in advance of delivery delays and product shortages	0	3	5	15	4
My firm is able to modify order size, volume or composition during logistics operations	1	1	4	15	6
My firm is able to accommodate delivery times for specific customers	0	5	4	10	7

Table 1 demonstrates that the respondents estimate their logistics performance higher than that of their competitors. Meeting key customers' needs and demands account for the largest number of positive responses (93% of the respondents). This demonstrates the firms' marketing-oriented activities but does not mean that their competitors do not meet customers' demands. Particular customers' demands have their own peculiarities, each of which is satisfied differently by a particular firm.

But while answering the questions the respondent companies might think that the reason why the customers chose their company was that they excelled their competitors in meeting customers' demands and performing orders. In fact, their competitors may well meet customers' demands even better than they do.

78% of the respondents believe that they can modify the size, volume or composition of the order while performing logistics operations. 77% of the respondents consider their ability to reduce the time between the order receipt and the customer delivery to as close as 0 to be greater against their competitors.

This fact demonstrates that flexibility with respect to the order performance is one of the key factors affecting customer relationship management.

The amount of answers with flexibility assessed lower than that of their competitors with respect to order performance amounts to 7%.

Only 65% of respondents assess their ability to respond to specific customer's delivery time higher than that of their competitors, and 19% answered that they respond to customers' specific orders worse than their competitors, which might be explained by low level of logistics development in some companies and inaction in supply chain management.

74% of the respondents assess their ability to meet the quoted or anticipated delivery dates on a consistent basis better than that of their competitors. 70% of the respondents assess their ability to notify the customers in advance of delivery delays or products shortage better than that of their competitors.

This demonstrates that companies give proper consideration to perfection factors in their logistics operations, but disregarding those in other branches of the industry.

Table 2 Companies' opinion on the perspectives of the supply chain development

	Strongly disagree	Disagree	Neither agree nor	Agree	Strongly agree
We regularly monitor and evaluate our logistics costs and performance internally	0	9	2	11	10
We regularly monitor and evaluate logistics costs and performance with selected suppliers and/or	0	9	1	12	10
We regularly benchmark logistics performance metrics against our competitors	3	14	3	4	5
Regular monitoring and evaluation of logistics benefits our firm	0	7	2	15	6
We regularly monitor the environmental effects of our logistics operations	8	12	2	5	4

Table 2 allows assessing the perspectives of logistics activities in the firm. The major part of the respondents (70%) regularly monitor and evaluate logistics benefits in their firm, 69% monitor and evaluate logistics costs, as well as performance with selected suppliers and/or customers, 66% regularly monitor and evaluate their logistics costs and performance internally.

The respondents' answers are made in accordance with the metrics which serve as the basis for performance measurement, with financial indicators prevailing.

Logistics costs in accordance with the present practices of logistics performance evaluation in Russia serve as the major factor for

logistics effectiveness evaluation. Thus, the respondents' answers were anticipated and typical.

Other factors are assessed worse: only 31% of respondents compare their logistics performance to that of their competitors regarding their competitors' logistics performance as standard of reference. This demonstrates low use of benchmark concept, little information about the competitive companies, that is, impossibility to compare. Besides, answers to the previous questions of Table 1 demonstrate that the respondents rate their company higher than that of their competitor, so they would hardly regard their competitor as benchmark.

Only 29% of the respondents take account of environmental effects of their logistics operations, besides, 65% do not monitor environmental effects from their logistics operations. This undoubtedly characterises a firm negatively.

Table 3 Companies' self assessment on the importance of logistics in their operations

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Logistics has a major impact on our profitability	1	6	2	16	6
Logistics has a major impact on our customer service level	1	3	1	14	13
Logistics is a key source of competitive advantage for our	1	8	2	12	8
Logistics is a top management priority in our firm	2	13	5	9	2

Table 3 demonstrates the companies' opinion on the importance of logistics in their operations. Though 84% of the respondents consider logistics to have a major impact on their customer service level, 71% consider it to have a major impact on their profitability and 65% regard it as a key source of competitive advantage for the company, only 35% consider logistics to be a top management priority in the company. This demonstrates that logistics is regarded as a minor factor in management and shows top and middle management incompetence with respect to logistics current concepts, as well as the firms' low logistics performance level in general. Half of the respondents answered that logistics is not a priority factor in their firms.



Table 4 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	8	3	15	5
We are well prepared for internal disturbances and irregularities in our operations	1	4	1	19	5
Our information systems provide operational managers with sufficient and timely information to	0	9	1	15	5
Strategic planning and target setting is done in collaboration between functions/ departments	1	6	2	17	3

Table 4 demonstrates the results with respect to internal collaboration in logistics operations: 80% of the respondent companies answered that they are well prepared for internal disturbances and irregularities in their logistics operations, 69% - that strategic planning and target setting is done in collaboration between functions and departments, 67% are satisfied with information systems which provide operational managers with sufficient information for logistics performance, 65% consider that they effectively share operational information within the firm.

Thus, the level of internal collaboration in logistics operations can be assessed as average. The largest number of negative responses while completing the questionnaire was given to the questions about effective sharing of operational information within the firm and effectiveness of the operational system. Information systems faults may appear the major reasons for ineffectiveness of providing and sharing information within the firm.

Table 5 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	0	6	1	19	6
We are well prepared for external disturbances and irregularities in our operations	0	12	1	13	2
Our information systems support the sharing of operational information with selected suppliers and/or	1	11	0	4	2
We effectively collaborate with selected suppliers and/or customers to facilitate operational planning and to	0	2	2	11	2

The level of external cooperation in logistics companies is much lower than that of internal cooperation. Thus, it is only effective sharing of operational information with selected suppliers and customers (78% of the respondents – companies' representatives) and effective

cooperation with selected suppliers and customers with a view to facilitating operational planning and business projections (76% of the respondents) that was highly assessed. Only 53% of the respondents consider their companies to be well prepared for external disturbances in logistics, and only 33% are satisfied with how information systems support sharing of operational information with selected suppliers and/or customers.

The obtained answers have been anticipated, as they reflect the actual situation in the companies with respect to collaboration with suppliers and customers.

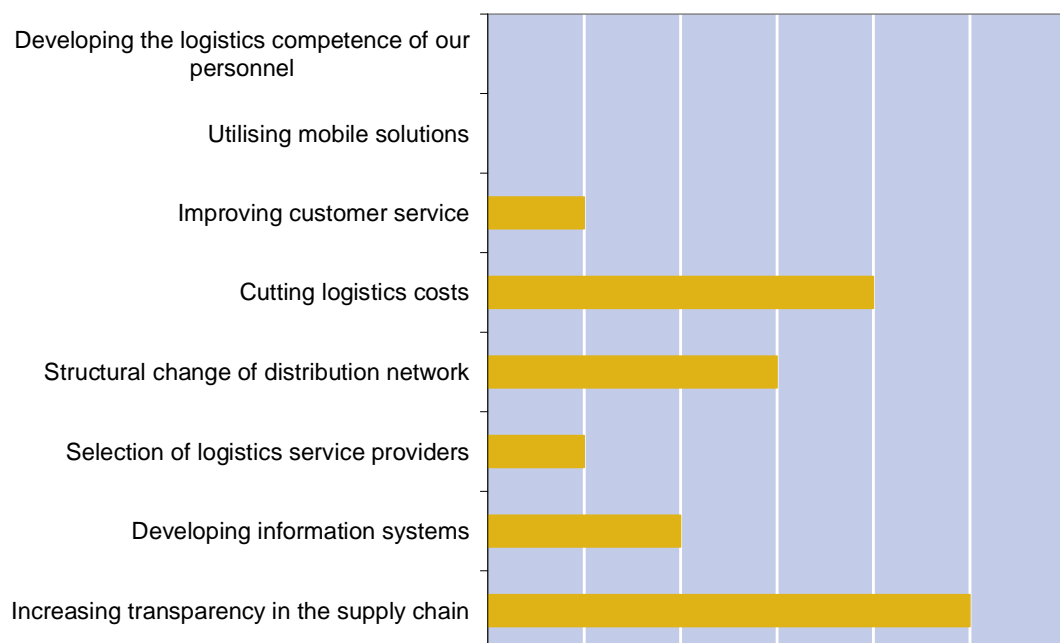


Figure 13 The most important future development needs of manufacturing companies

The most essential needs of the companies with respect to logistics development are information systems development (31%), improving customers' service (25%) and cutting logistics costs (19%). Less essential are selection of suppliers, structural changes of distributional network (6%) and using mobile solutions (6%). The survey shows that the major needs of the companies are information technologies and accomplishment of marketing objects at the least logistics costs. It is also clear that the major management factor is that of marketing, and the companies' goal is to direct the manager's mentality to supply chain management.

## FINDINGS FROM LOGISTICS SERVICE PROVIDERS

### *Client structure and market development*

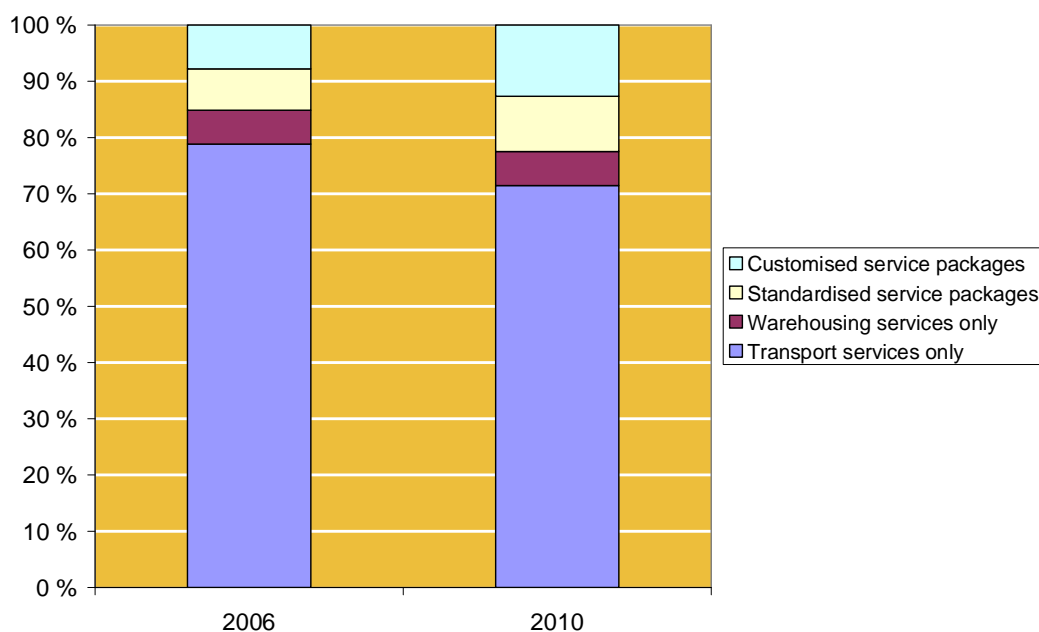


Figure 14 Distribution of turnover in logistic services companies for different types of services 2006 and 2010 (estimate)

Companies providing transportation services in general plan to increase turnover from providing value added services, both within standardised service package and at customer's request (it is true for almost two-third of transportation companies). 5% of transportation companies are aware of the necessity to provide, apart from transport services, warehousing services, and 13 percent are sure that turnover from transport services will be increasing, thus they are concentrating on carriage services. Warehousing companies' vision also provides for concentrating on their specific activity, although they might focus on added value services as well. It is significant that no single warehousing company is going to provide transport services solely.

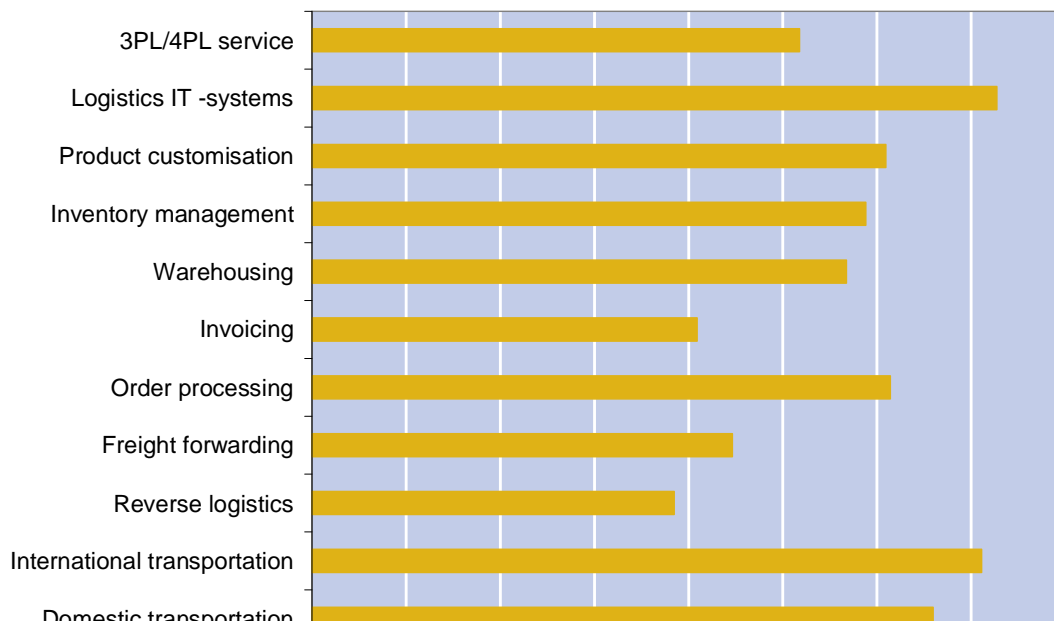


Figure 15 The relative trend of outsourcing, logistics service providers in St. Petersburg

Domestic transportation. 93% of respondents believe that the demand for this type of logistic activity in St. Petersburg will have grown by 2010. Over half of them expect this growth to be significant. Almost 5% of companies' representatives believe the demand for domestic transportation to stay the same, 2% think it will experience a decrease.

International transportation. 93% of respondents expect the demand for international transportation to have increased by 2010 with 73% being sure that the increase would be considerable. 3.5% of the answers demonstrate awareness of the future decrease of the demand for international transportation or lack of change as against present time.

Reverse logistics. 64% of answers to the question regarding fluctuations of demand for reverse flow management were in favour of increasing demand (the majority think it would be a slight increase). About a quarter of those surveyed (26%) do not consider demand increase possible, and believe the demand for reverse logistics would not experience any decrease. 10% of company representatives forecast that there would be a slump in demand (half of them are trade companies, the other half – logistic operators not engaged in transport activities).

Freight-forwarding. 71% of the respondents consider that the demand for freight-forwarding will increase (forecasts of both substantial and slight increase in demand went fifty-fifty). About a quarter of the respondents believe that the demand for these services will remain the same by the year of 2010, the other part of the respondents consider the demand to decrease slightly.

Order processing as a kind of logistics services does not belong to well-developed logistics market services in St Petersburg; that becomes clear from the answers to the question about the demand, as one-fifth of the respondents found the question difficult to answer. The rest of the respondents, which is the major part (87%) believe that the order processing services will develop, the demand for them will increase (forecasts of substantial and slight increase in demand went fifty-fifty). 9% believe that the situation will remain the same, and 4% forecast a slight decrease in demand for this kind of services.

Invoicing as a kind of logistics services belongs to the class of developing services; this was also reflected in the answers: three-fourths of the respondents believe that the demand for these services will increase. (About half of the respondents who answered positively believe the demand will increase very slightly), 18% believe the demand will not increase, and 7% - that it will slightly decrease.

Warehousing. 82% of the respondents forecast an increase in the demand for warehousing services. (60% of them forecast a substantial increase). 10% believe that the demand will remain the same, 6% think that it will decrease very slightly, 2%, which was only one firm, reckon that it will decrease considerably. The firms who answered that the demand for warehousing will decrease were manufacturing enterprises, and one firm was a trading company.

Inventory management. Inventory management as a kind of logistics services is characterised by a potential increase in demand; this is a forecast of 84% of the respondents, with more than half of them anticipating the demand for inventory management to increase by the year of 2010. 12% believe that the demand will remain the same, 4% - that it will slightly decrease (this is the opinion of those involved in sea shipping).

Product customization belongs to the services with an increase in demand: 41% answered that the demand will increase very slightly, and 46% believe it will increase considerably. 11% consider the demand to remain the same, and 2% - that it will decrease very slightly.

Logistics IT-systems (services). These are the services the demand for which the majority of the respondents - 98% - consider to be increased (with more than half of them forecasting a considerable increase in demand for IT-systems). Only one enterprise (about 2%) considers the demand to remain the same. There was not any forecast of a decrease in demand for IT-systems.

3PL/4PL services are characterised by an increase in demand, which is an opinion of 85% of the respondents (60% believe that the demand will increase very slightly). 10% of the respondents consider the demand to remain the same and 2.5% in each of the two groups respectively believe that the demand for this kind of services will decrease either slightly or considerably (these are companies providing several logistics services: railway and motor transportation, stevedoring services and sea shipping).

### *Logistics competence*

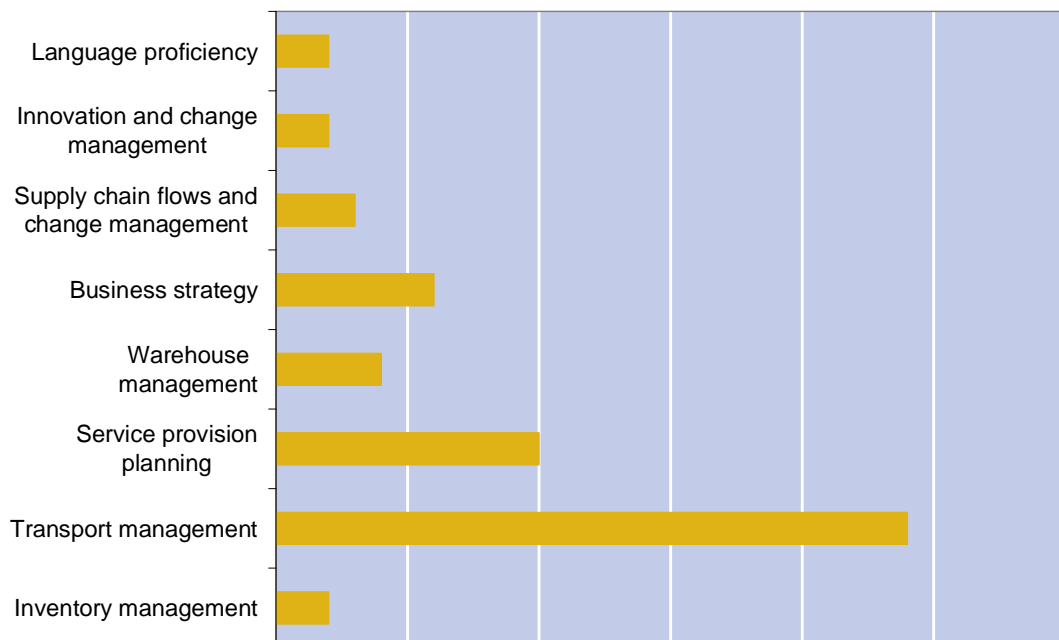


Figure 16 The most important development needs of personnel competence, logistics service providers

Taking into account that a great number of transport companies were surveyed, their preferences manifested themselves in the overall survey results. Transport companies placed first the specialised training of personnel in the field of transport management, companies providing warehouse services – in the field of warehouse management respectively. Planning of services and business strategy for logistic operators is an important major field of activity placed third-fourth. Language proficiency training is of utmost importance for transport companies which is due to large amount of international transportation in their activities.

### *Development needs and threats of the future*

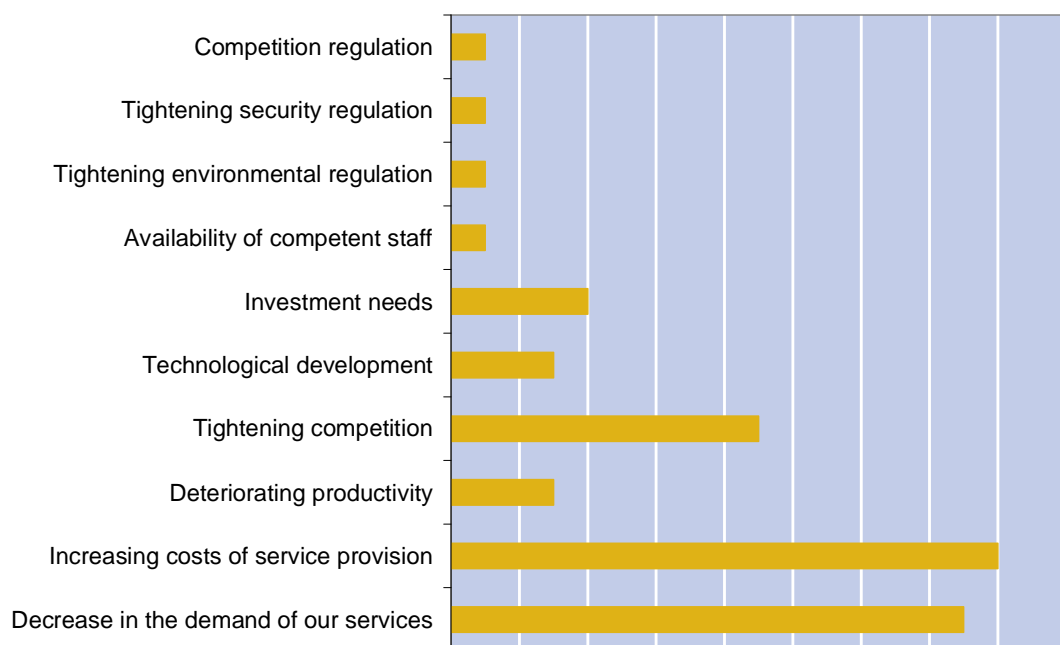


Figure 17 Largest threats to business, logistics service providers

The largest threat for logistic operators is increasing cost of services (ticked off by 30% of operators). It is an expected outcome because on the transport service market (and transport companies dominate among survey participants) price competition is very high and increase in the cost of services provided leads to deterioration of competitive positions. Decrease of demand for the services is a large threat as well (28 percent of answers) for it affects paying capacity of the companies which make investments in capital assets and often have credit and leasing liabilities. Tightening of competition on the whole (price and non-price related) is a serious threat especially for small-sized

companies (15% of respondents ticked off this factor). From 1 to 7 percent of operators name other threats for successful business development.

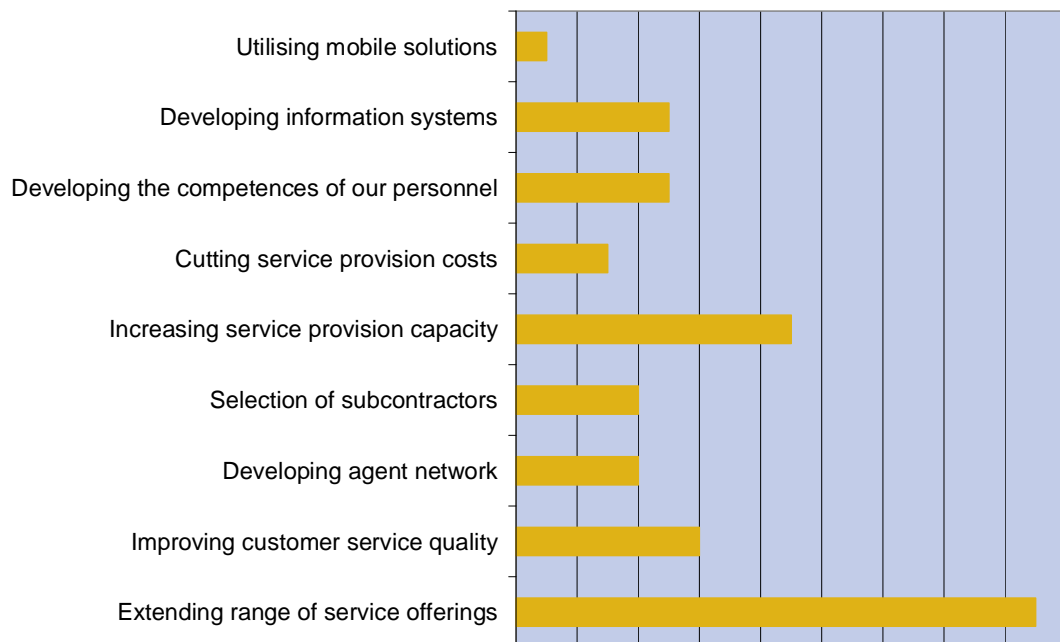


Figure 18 The most important development needs for the future, logistics service providers

The most important development needs for the future were specified by logistic operators as following: expanding the range of service offerings (ticked off by 31 percent of respondents), increasing service provision capacity (17%), improving customer service quality (11%). Other development needs were specified by 10 percent of surveyed logistic operators.



## Operating environment

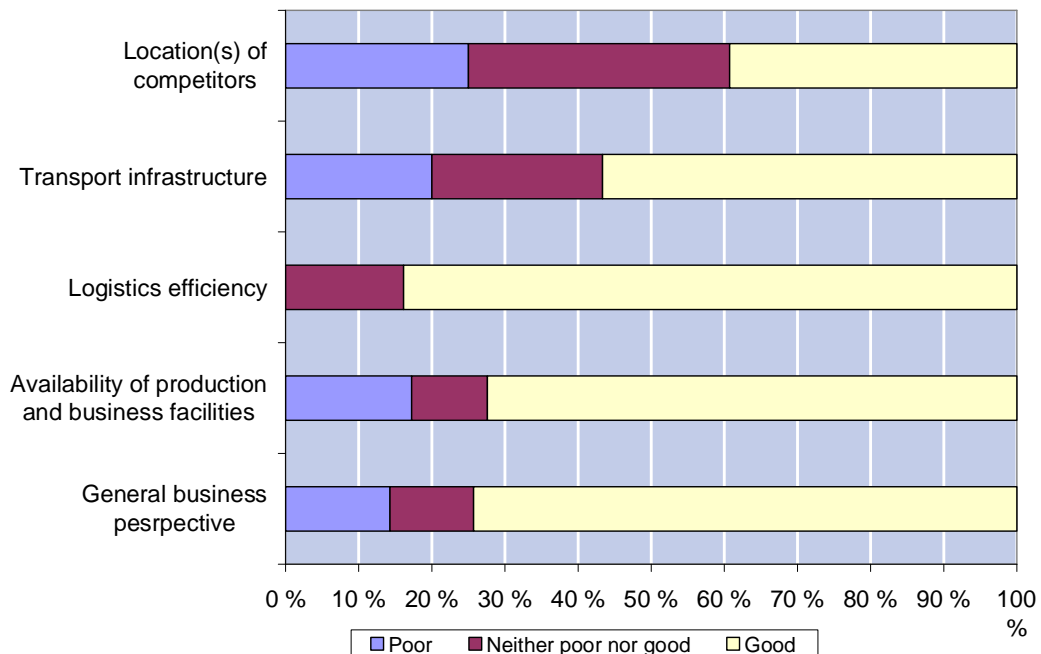


Figure 19 Logistics service providers' opinions on their operating environment

Logistic operators on the whole gave a positive evaluation of their operating environment. The most highly evaluated was logistics efficiency (it was considered good by 84 percent of operators), as well as general business perspectives (74% of operators) and availability of production and business facilities (72% of operators). It corresponds to evaluation given by companies from other industries. However, logistics efficiency as one of the dimensions of the operating environment was highly evaluated by logistic operators only.

Transport infrastructure got average scores – only half of the respondents marked it as good; location of competitors was low assessed (25 % of operators marked it as poor, 40 % believed it was good).

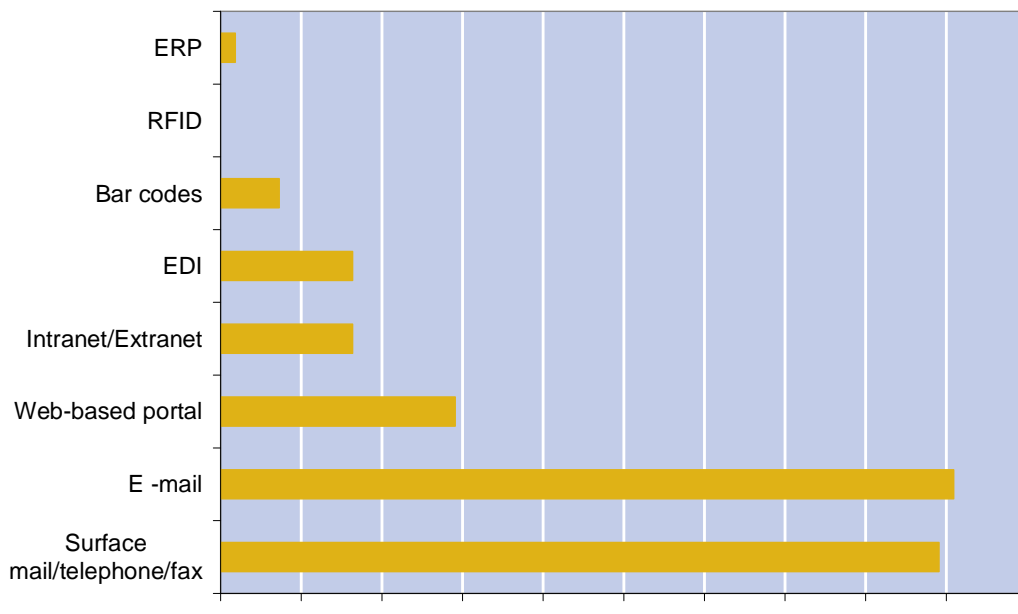


Figure 20 The usage of different ICT-systems, logistics service providers in St. Petersburg

For customer service operations logistic companies use e-mail most often, surface telephone, fax and mail. These means of communication were ticked off by 90 percent of respondents. Web based portal is used by almost 30 percent of companies, 16 percent of respondents use Intranet and EDI. Logistic operators rarely use bar codes, ERP systems and RFID. Such distribution of answers can be attributed to the field of activities of companies. E-mail, fax, telephone and Web based portal are usually enough for transport companies. The number of warehouse companies surveyed was not large, that is why bar code technologies were not so popular among the answers given, although they are widely used at logistic terminals. ERP systems are more popular in manufacturing sector, while transport companies do not experience the need in such type of systems.

## Self assessment of the companies

Table 6 Companies' self assessment on complexity in the supply chain

	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	0	8	17	13
My firm is able to meet the quoted or anticipated delivery dates and quantities on a consistent basis	0	0	13	18	8
My firm is able to respond to the needs and wants of key customers	1	1	6	14	17
My firm is able to notify customers in advance of delivery delays and product shortages	0	1	13	15	11
My firm is able to modify order size, volume or composition during logistics operations	1	6	13	14	4
My firm is able to accommodate delivery times for specific customers	1	1	9	18	8

Self assessment of companies in comparison with competitors' is in general rather high. About 80% of respondents thought themselves more capable than competitors in the following: meeting the needs of key customers and reducing the time between order placement and delivery as close as zero. Accommodating delivery time for specific customers was also rated high (70% of the respondents ticked off "better" option). It pinpoints the emphasis that the companies put onto marketing activities and the importance of flexible approach to communicating with customers for efficient delivery services.

Neutrally was assessed the ability to consistently meet the quoted or anticipated terms (67%) and ability to notify customers in advance of delivery delays and other hardships in providing services (65 %). The ability of companies to modify order size, volume or composition was assessed low which is explained by the fact that the company specialises in a certain field of activity

Table 7 Companies' self assessment on the future of supply chain

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
We regularly monitor and evaluate our logistics costs and performance internally	3	3	8	18	7
We regularly monitor and evaluate logistics costs and performance with selected suppliers	4	3	12	13	6
We regularly benchmark logistics performance metrics against our competitors	0	7	4	15	9
Regular monitoring and evaluation of logistics benefits our firm	0	3	8	17	10
We regularly monitor the environmental effects of our logistics operations	4	6	9	9	3

Logistic operators as is shown in table 7 monitor logistic benefits of their company on a regular (71% of operators) and monitor and evaluate their performance with that of competitors (69%).

Over half of the respondents (64%) monitor and evaluate logistic costs and performance within their company on a regular basis, half of the companies being surveyed perform the same kind of benchmarking activities in collaboration with their contractors (subcontractors) and/or customers.

A very low number of operators regularly monitor environmental effects of their activities (39%). It signals low social responsibility of the companies.

The results of the survey allow outlining the prospects of logistic development within the organizational structure of the enterprise. This includes benchmarking, development of performance indicators (it is possible to elaborate balanced system of indicators where ecological aspect would be reflected as well).

Table 8 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	0	2	1	19	20
We are well prepared for internal disturbances and irregularities in our operations	1	4	1	17	17
Our information systems provide operational managers with sufficient and timely information to manage logistics	0	8	1	18	13
Strategic planning and target setting is done in collaboration between functions/ departments	0	8	5	20	8

Logistic operators demonstrate high appraisal of internal collaboration in logistic operations. 98 percent of those surveyed efficiently share information within the company; 85 percent are well prepared for internal disturbances and irregularities in their operations.; 78 percent are satisfied with corporate information systems which are used for interfunctional coordination; 68 percent believe that strategic planning and target setting is done in collaboration between functions/department.

Table 9 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	7	0	25	6
We are well prepared for external disturbances and irregularities in our operations	0	8	1	21	7
Our information systems support the sharing of operational information with selected suppliers and/or customers	1	8	3	16	9
We effectively collaborate with selectd suppliers and/or customers to facilitate operational planning and to improve	1	5	3	23	6

External collaboration of logistic operators with other companies in the process of performing logistic operations is lower in comparison with internal collaboration. All dimensions of external collaboration got approximately even appraisal – from 68 to 79 percent of respondents ticked off that they agree and strongly agree with statements characterising external cooperation.

## SUMMARY AND CONCLUSIONS

The majority of scientific research in the field of logistic are applications oriented and focused on the support of decision making, efficiency of attracted resources, and must be directed towards enterprises working in different sectors: transport, production, construction, trade and other. However not all the research, despite their authors' assurances in the practical, hands-on nature of their results, is accepted by logisticians engaged in actual activities. One of the causes of the gap between research results and practical tasks of logistics is the lack of information on logistic environment: companies implementing logistic functions in supply chains, their advances and information technologies being applied, needs and internal and external threats they are exposed to.

It is worth noting that logistic environment research is being carried out; however, its results are not always conveyed to a vast number of researchers specialising in different fields of logistics and working in different parts of the country. Sometimes it is easier to obtain the results of foreign markets analysis than to get the information on the Russian logistic market and the level of its development at various companies working in different sectors of economy.

Implementing such a survey is of great importance for evaluating logistic environment. First of all, the results can help to evaluate the progress of logistics and principles of logistic management at the enterprises and highlight the prospects of logistic market development. The scope of such research is very limited quantity, and it contributes to low activity of enterprises, lack of confidence to survey questions, reluctance to think over the questions.

Besides, such surveys are important for higher education institutions. While elaborating state educational standards of the third generation, professional competences are taken into account that according to logistic experts and employers (bachelor and master programme graduates) in various fields must possess. To meet this

challenge various professional standards are being elaborated although their elaboration for logistics and supply chain management is complicated, because this type of professional training is new (the first intake of students in the Russian Federation was in the year 2000), and many employers do not have any clear-cut expectations of logisticians' responsibilities within the company. Many practical experts and some researchers believe logistics is just one function (for instance, transportation). Some think that logisticians have to cover all types of the company's activities. Survey results may be taken into account while choosing a profession or business sphere, personnel hiring and to formulate professional competences the promotion of which is one of the tasks facing the higher education schools.