

LogOn Baltic Regional reports
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ICT SURVEY IN LITHUANIA

**Darius Bazaras,
Ramūnas Palšaitis and
Tomi Solakivi**



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EXECUTIVE SUMMARY

The purpose of the current survey is to give an overview about the Information and Communication Technologies (ICT) situation, usage and developments among Lithuanian companies, covering both infrastructure and service areas. The respondents of the survey were mainly SMEs from logistics, manufacturing, trading and other industries, represented by senior management members.

As a result of the survey, Lithuania verified its position among the countries with quite well developed ICT infrastructure: access rate to Internet is high, broadband availability and access to company E-mail is considered acceptable. Most of the companies have qualified IT personnel working for them, but according to the findings from the Expert Interviews, the lack of IT specialists on the market is the main obstacle for further development of ICT in Lithuania.

ICT resources are used everyday in the areas of Accountancy and Marketing/Sales; the biggest perspective is seen in production-related areas which are at the moment too focused on cost-saving issues. However, the overall trend shows that companies are not that willing to invest, and expenses in ICT are rather low, focusing more on hardware than on personnel or software. Although basic measures for data protection are available in the companies, they are not always correctly used nor timely updated; this represents a problem for the companies. Most of the companies regularly monitor ICT costs and performance internally. Externally they sometimes do it on a client basis, but only a few benchmark data with competitors. Most of the responding companies use their website for marketing purposes. Regarding the interaction with public authorities, the Internet is mainly used to obtain information or complete/send online forms. Only a small percentage of companies do not use Internet at all to interact with public authorities showing that the companies are willing to use all the opportunities ICT has to offer.

Regarding communication, the importance of modern channels has exceeded traditional means like visits and regular post. Parallel to this, there is a strong pressure for implementing new tools of communication such as Electronic Data Interchange (EDI) or online order tracking systems. There is an increase in electronic business,

both with suppliers and end users/ customers, although the latter is at the moment of less importance. Companies see e-commerce to have a significant effect on several perspectives of doing business, e.g. helping to simplify the transactions; opportunities to reach new customers or suppliers and improving the service quality.

The survey also revealed that in some cases companies were not able to manage effectively the flow of information.

For the implementation of the ICT Survey in Lithuania, electronic versions of the questionnaire were sent via e-mail to companies whose contact details were obtained from open databases (i.e. internet catalogues). Many unanswered e-mails returned with the remark that the quota of the respective e-mail box was exceeded. This gives a hint that many companies do not spare enough attention to incoming e-mails or do not know how to manage this flow of information correctly.

The biggest barrier companies see for the use of ICT in general are security issues. From other results, most of the conclusions drawn based on expert interviews are confirmed by this survey, including lack of ICT personnel, lack of tailored solutions for the companies and from the positive side open mindedness of Lithuanians for using ICT in their everyday work.

TYRIMO SANTRAUKA

Šių tyrimų tikslas yra įvertinti Informacinių ir komunikacinių technologijų (IKT) situaciją Lietuvoje, jų panaudojimą įmonėse susijusiose su tiek su infrastruktūra tiek ir su aptarnavimu. Tyrimų respondentais buvo parinktos mažos ir vidutinės įmonės dirbančios logistikos, prekybos ir gamybos sferose. Anketas pildė įmonių vidutinio ar aukštesnio valdymo lygmens vadybininkai.

Tyrimų rezultatai leido įvertinti Lietuvos poziciją tarp šalių su išvystyta IKT infrastruktūra. Nustatyta, kad verslo aptarnavimui plačiai naudojamas Internetas, elektroninis paštas, firmose dirba ar aptarnauja pakankamai kvalifikuotas IT personalas. Tyrimai parodė, kad tolimesnei IKT plėtrai gali trukdyti kvalifikuotų IT specialistų trūkumas.

IKT resursai kasdien yra naudojami su buhalterine apskaita, marketingu, logistika ir pardavimais susijusiuose padaliniuose. Dideli IKT panaudojimo rezervai stebimi gamybinėse įmonėse, nes šiuo metu didžiausias dėmesys yra skiriamas sąnaudų ir savikainos mažinimui.

Nustatyta, kad investicijos į informacines technologijas yra gana mažos ir įmonės linkę daugiau investuoti į kompiuterinę įrangą nei į personalą ar programinį aprūpinimą. Skiriamas pakankamai didelis dėmesys duomenų apsaugai, nors apsaugos programų atnaujinimo ir panaudojimo kontrolės klausimai yra gana problemiški.

Daugelis įmonių periodiškai įvertina IKT kainas ir panaudojimą susijusį su klientų aptarnavimu, tačiau labai nedaugelis atlieka savo ir konkurentų turimų IKT lyginamąją analizę.

Dauguma respondentų savo internetinius tinklalapius naudoja marketingo tikslams. Internetas yra naudojamas informacijos gavimui ar standartinių dokumentų persiuntimui. Interneto nenaudoja tik labai mažas įmonių procentas. Įmonės planuoja įmanomai plačiau panaudoti visas IKT galimybes.

Šiuolaikinės komunikacinės sistemos leidžia palaikyti glaudžius ryšius su klientais, keistis elektroninio pašto pranešimais. Siekiant įgyti konkurencinį pranašumą rinkoje yra būtina diegti ir naudoti EDI sistemas užsakymų tvarkymui, darbui su tiekėjais bei klientais. Įmonės mato dideles elektroninės komercijos diegimo perspektyvas tvarkant bankines operacijas, tiekėjų bei naujų klientų paieškoje, klientų

aptarnavimo tobulinime. Didžiausias IKT diegimo trukdis – saugumo užtikrinimas.

Tyrimo metu pastebėta, kad atskirais atvejais įmonės naudoja nepakankamai efektyvias informacinių srautų valdymo sistemas bei ypatingai – metodus. Tyrėjai naudojo elektroninius klausimynus, kurie buvo siunčiami oficialiais įmonių adresais gautais iš atvirų duomenų bazių (pvz., Internetinių katalogų) Didelis skaičius iš įmonių grįžusių klausimynų buvo su nuoroda, kad yra perpildyta elektroninio pašto dėžutė. Tai rodo, kad įmonės nekreipia pakankamai dėmesio įeinantiems informaciniams srautams arba neturi pakankamai kompetencijų ar metodų juos tvarkyti.

Atlikti tyrimai parodė, kad trūksta kvalifikuotų IKT specialistų, taikomojo programinio aprūpinimo bei pažangaus požiūrio į IKT panaudojimą kasdieniniame darbe.

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1 INTRODUCTION

1.1 Project introduction – LogOn Baltic

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 and Information and Communication Technologies (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 ICT and logistics, thus improving regional development.

The following regions are participating in the project:

- South-West Finland
- Östergötland (Sweden)
- Denmark
- Southern Metropolitan Region of Hamburg (Germany)
- West-Mecklenburg (Germany)
- North-East Poland
- Lithuania
- Latvia
- Estonia
- St. Petersburg (Russia)

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: Development Measure Impact Analysis (DEMIA), Logistics survey, ICT survey 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.

1.2 Regional partner introduction

Vilnius Gediminas Technical University (VGTU)¹ provides higher technical education, prepares high skilled specialists, carries out fundamental and applied research, and prepares scientists. VGTU trains skilled specialists, carries out fundamental and applied research, educating the young generation of researchers.

13,800 students are studying at the University (40% are female). The number of full-time and part-time students for BSc degree amounts to 10,950 and the total number of postgraduate students (MSc and Diploma Engineers) being 2,600.

The main fields of VGTU research are engineering economics and management, intellectual resources, applied research and financing of the investigations are outlined in the strategy of VGTU research and development. The priorities stated embrace research orientation at the trends of European research, establishing research centres of high technologies and raising the level of investigation and development. The research carried out at VGTU is mainly oriented at the EU Framework programme for research and technological development,

¹ Description of the partner is based on the information from www.vgtu.lt

dealing with sustainable development and global changes. The research performed at some VGTU departments and research centres is focused on different important items, following the priorities in European research and development.

VGTU transport management department has long experience in transport management and logistics teaching.

1.3 ICT survey introduction

This survey – part of the LogOn Baltic project - is one of the tools for primary data collecting. It aims at reflecting the use of ICT as interface between the private and public sector. It is also intended to describe the existing ICT infrastructure and services in the participating regions, revealing up to what extent they meet with the companies' needs for further development.

The questionnaire consists of five modules. Each region has the opportunity to add one or two questions focusing on specific regional issues. These additional questions were added in an extra module (Module F). The same questionnaire has been used in all regions.

The survey is mainly conducted as a web-based survey, but mail surveys, phone surveys and interviews have 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 ICT. 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.

2 SURVEY DESIGN

2.1 Target group and sample

Near half of the respondents represented micro-sized companies. 35% were small companies, 15% medium-sized companies and only 7 out of 85 respondents - 8% - represented large companies. This illustrates very well the Lithuanian economical landscape where micro-and small-sized companies are dominative but also means that it is quite complicated to generalize the results to large sized companies.

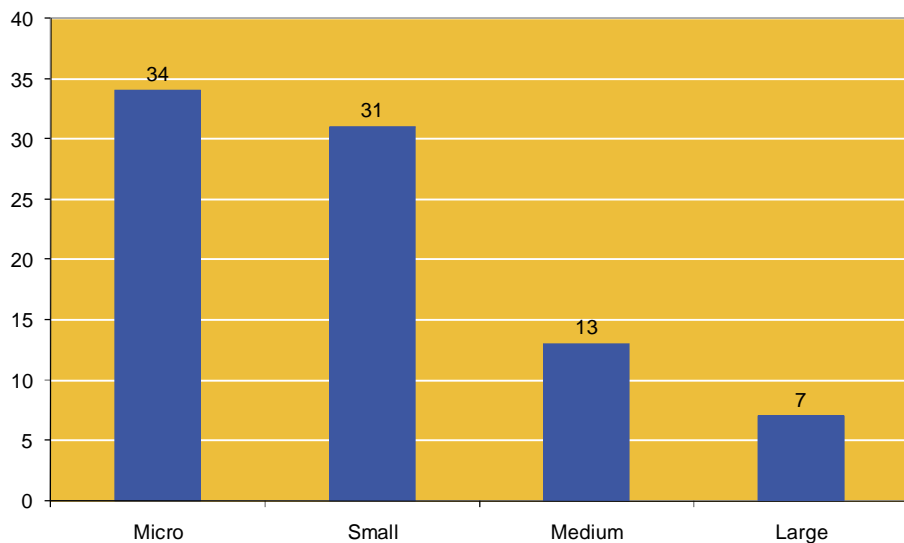


Figure 1 Number of respondents according to company size

An e-mail with a link to the questionnaire was sent out to approximately 1,500 companies from all the sectors, concentrating on logistics and ICT. The response rate was approximately 2%, which can be considered quite a very low figure. Additional efforts were made after half a year by distributing 100 questionnaires directly to the selected respondents. This led to an increase of the response rate of over 50%.

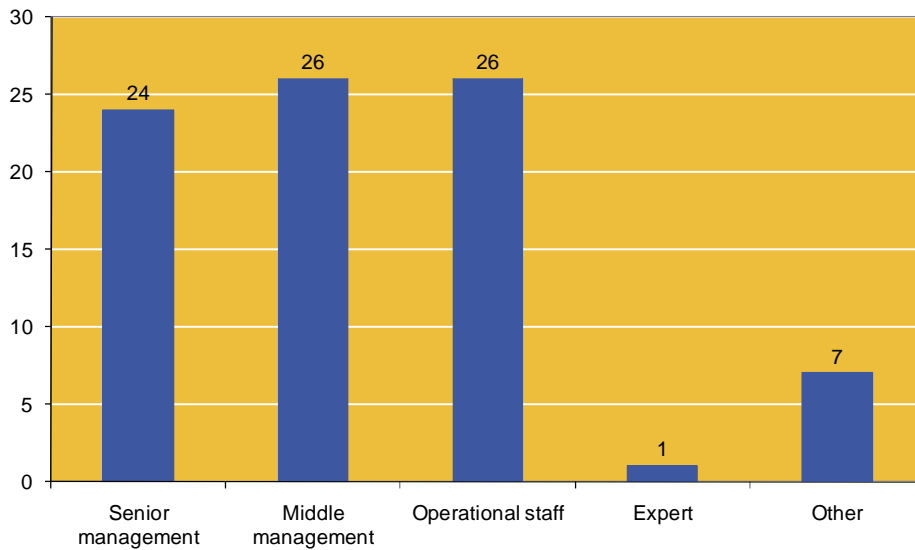


Figure 2 Number of respondents according to respondents' position in the company

The distribution of respondents between Senior-, Middle Management and operational staff is almost equal (~30%). The predominance of the Senior Management responds to the dominant representation of micro-sized companies (Figure 1), where one of few employees is often owner or manager.



Figure 3 Number of respondents according to main industry

The manufacturing industry is represented by 25% of the responses; 20% are from the trading industry, and 22% represent other industries. Logistics service providers represent 32% of all respondents. The ICT survey was intended to cover sectors/industries that have an overview about everyday use of ICT means and developments in the companies; therefore the identical distribution among the different sectors/industries is an advantage.

2.2 Main themes of the survey

The ICT Survey consists of five mandatory modules (A – E), and an optional module for region-specific questions. The main themes of the survey are:

- General contact- and background information of the companies
- Use of ICT in the companies within the regions
- Use of the Internet in the companies within the regions
- E-commerce / E-business
- General assessment of the use of ICT in the regions
- Region-specific issues [optional module]

The ICT Survey is intended for the whole population of regional companies.

3 FINDINGS FROM THE SURVEYS

65% of the respondents assure that most of the company employees (>75%) have access to Internet and 57% have accordingly provided most of their employees with a company e-mail account. Less than half of the employees have access to Internet in 22% of the companies and a considerably small group (18%) of the companies has provided less than 25% of their employees with a company E-mail account.

3.1 Use of ICT systems

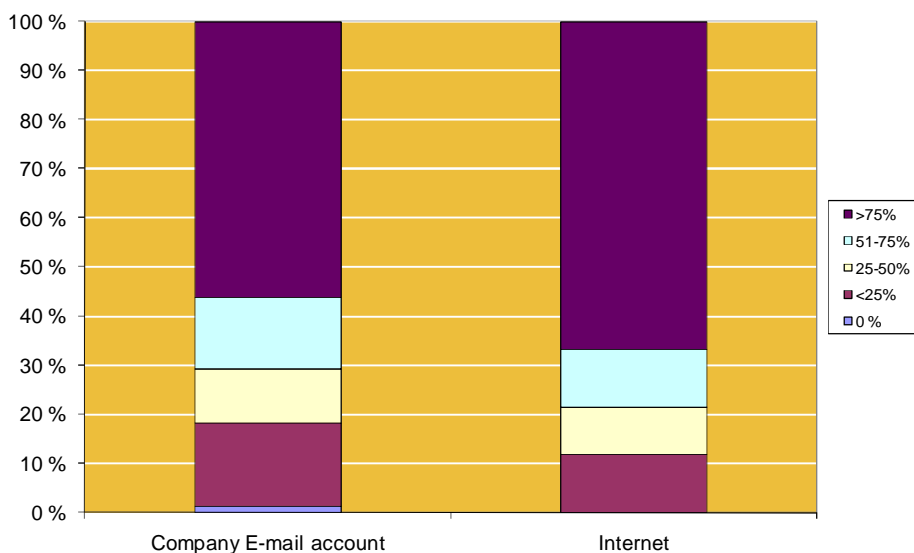


Figure 4 How many percent of employees have access to E-mail and Internet?

ICT usage and Internet access is constantly monitored in Lithuania and has been highly appreciated at an international level. According to a TNS Gallup survey, 95% of the companies in Lithuania have Internet access and at least one computer, although the use of the possibilities of e-commerce and e-business is not too common. About 80% of the

inhabitants live in the areas with possibility for immediate broadband connection. In 2007, 40% of the population aged 15- 74 used Internet.

The relative contradiction between the high level of Lithuanian companies with Internet access and employees not having access to it can be explained by the division of industrial sectors shown in Figure 3. All companies in Lithuania determined that ICT means to be available mainly in the offices and among white-collar workers, not in the plant or next to the counter. Still, the rate of Internet access in the companies can be considered high, and the access to company E-mail accounts acceptable.

The survey also revealed an inefficient management of e-mail accounts in many cases. For the implementation of the ICT Survey in Lithuania, electronic versions of the questionnaire were sent via e-mail to the companies. Many unanswered e-mails returned with the remark that the quota of the respective e-mail box was exceeded. This gives a hint that many companies do not spare enough attention to incoming e-mails or do not know how to manage this flow of information correctly.

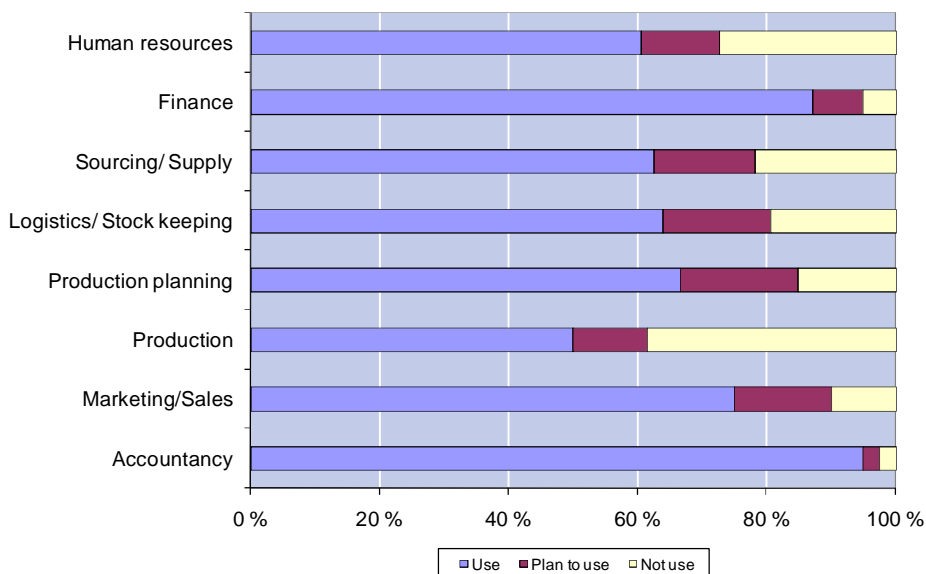


Figure 5 On which areas of business the companies are using ICT

The main business areas where ICT is used are Accountancy (close to 95%) and Marketing/Sales (~75%). In Finance ICT usage is over 85% and in the Sourcing/Supply, ICT usage is also over 60%.

65% of the companies use ICT means in Production Planning and just over 60% in Human Resources. But at the same time, these are the business areas in several companies where the plans to start using

ICT is the highest. The high usage of ICT means in the areas of Finance and Accountancy is not surprising, due to the high level of public services available via electronic channels in Lithuania – especially concerning the report of taxes and other financial / economical data compulsory to the companies. Also, the increasing usage of Internet in Lithuania is a key factor in high level Marketing/Sales activities done with the help of ICT. Companies have realized the importance of being visible in the Internet. Low usage of new solutions in Production (~50%) and its related areas is also very typical for Lithuanian manufacturing industry which is still based on subcontracting and low price advantage, but the need for change is acknowledged. Close to 60% of companies are using ICT for the management of the Human Resources, while 15% are planning to use it. The number of companies planning to start using ICT in some of the areas is quite high, which shows that companies are informed about the possibilities and are willing to use new solutions.

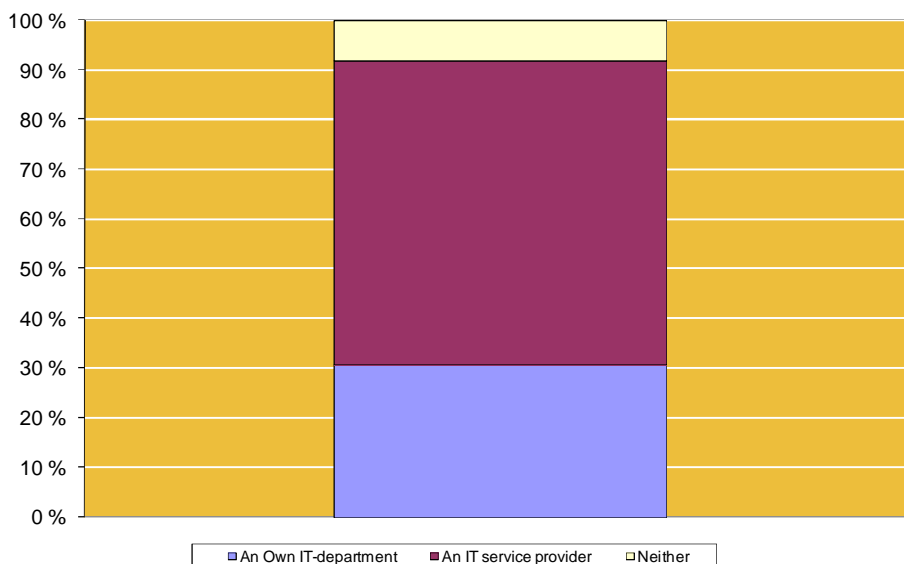


Figure 6 How the ICT administration is handled in the companies

Only 30% of the respondents claim to have an own IT department. Most of the companies (~60%) are subcontracting ICT services and affirm that specialized ICT service providers can provide higher quality services. All of the companies are concerned about the different ICT related issues. Micro and small sized companies do not have the resources to hire several ICT specialists; they would rather have a “contact person” for ICT related issues – an IT specialist or person with

more knowledge in the field of IT. Companies using service providers are usually in a stage where they have acknowledged the need for a specialist, but consider a separate qualified employee to be a waste of resources.

From the survey we can deduce that there are several Lithuanian IT companies with high-competence in the field, who could implement modern IT software for other companies (logistics, trade). But the contracting companies should pay special attention to following “threat”: in some cases, IT specialists do not have enough knowledge about manufacturing, trading or logistics particularities. Therefore, created or implemented software sometimes does not completely satisfy the clients’ needs.

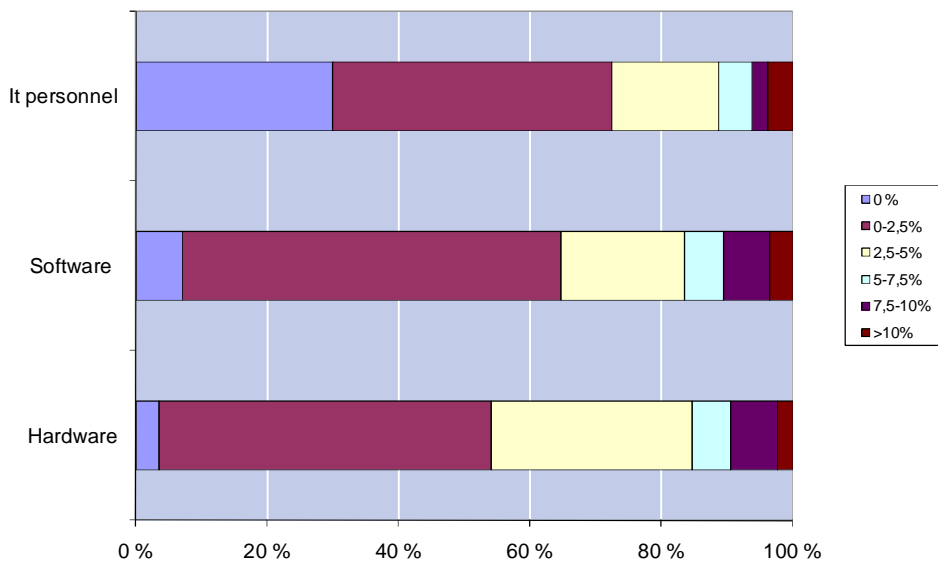


Figure 7 ICT expenses as a percentage of company turnover

The overall trend shows that ICT expenses in the responding companies is less than 2.5% of their turnover – this is the case in about 50% of the companies, while another important proportion spend between 2.5% and 5% of their turnover for ICT. It is clearly shown that the least expenses are made in IT personnel and the same amount in the software and hardware.

Many small companies exploit the knowledge of the younger generation generally capable of solving simpler ICT issues. Close to 75% of the companies spend less than 2.5% in personnel, which shows that most of the companies have very small departments or just one person employed in IT. The situation with software in Lithuania has

progressed in recent years, but little expenditure in software is still an issue which comes from the society's relative tolerance towards illegal software (70-80%). The companies also upgrade their software rarely, and usually buy new software with new hardware when the old computers are unusable. Very little is spent for special solutions developed according to the companies' own needs, and most of the software among micro-sized companies is for home-use.

Table 1 How the ICT-costs are expected to develop in the next 3 years

	Decrease	Remain constant	Increase
Hardware	3	34	48
Software	1	32	51
IT personnel	1	44	35

Table 2 The use of different data security measures

	Available	Regularly used/ updated
Password access control	32	55
Virus protection applications	28	33
Computer firewall applications	36	45
Employee education on data security	41	24
Own documented data security program	35	27

Table 3 How the companies monitor and evaluate their ICT costs and performance

	Disagree	Neither disagree nor agree	Agree
We regularly monitor and evaluate our IT costs and performance internally	14	31	37
We regularly monitor and evaluate IT costs and performance with selected suppliers and/ or customers	13	31	37
We regularly benchmark IT performance metrics against our competitors	24	30	24

As can be seen from Table 1, the main increase in costs is predicted for software. Increasing expenditures for software and hardware are at the same level, but are higher than for IT personnel. This proves that

the conclusions made based on Figure 7 regarding the need to legalize and upgrade or tailor the software, will lead to more expenses. However, the majority of the companies believe the cost level will stay the same, especially for hardware, leading to the assumption that the companies have developed own IT systems that meet their current needs.

Password access control and computer firewall applications are the most implemented data security measures. Also virus protection applications and employee education are implemented in one third of the responding companies. The least implemented measure are own documented data security programmes. Using/upgrading the means is not a problem regarding virus protection. Regarding own data security programmes, the level of using/upgrading is on an acceptable level compared to other fields.

One third of the companies regularly monitor their ICT costs and performance internally. Also, 37% of the companies follow the same indicators on a client basis. Benchmarking is substantially less used, which may indicate that there is either no benchmarking information available, or the companies do not see the benefits of this analysis.

3.2 Use of Internet

Over half of the respondents connect to Internet via modem; another 15% have a broadband connection and approximately 27% have other type of connections (for examples, wireless, radio). Connections are state-of-the-art and correspond to the needs of the companies.

Concerning this question, terminology and knowledge may be an issue since the respondents are not qualified IT specialists and judge the connection type based on the very end of the line coming straight to their computer (modem needed even in the case of broadband, especially in private use, which is the case of most micro companies). The survey also covered the issue of the use of websites by the companies. 71% of the respondents have a website, and 50% of these sites are managed by IT service providers. For Lithuanian companies it would be useful to distinguish between “content of website” and “Design software” issues. Very often, small companies buy a ready-designed layout of the website and CMS (Content Management System) software to ensure independence from the providers and be able to administer the website content themselves.

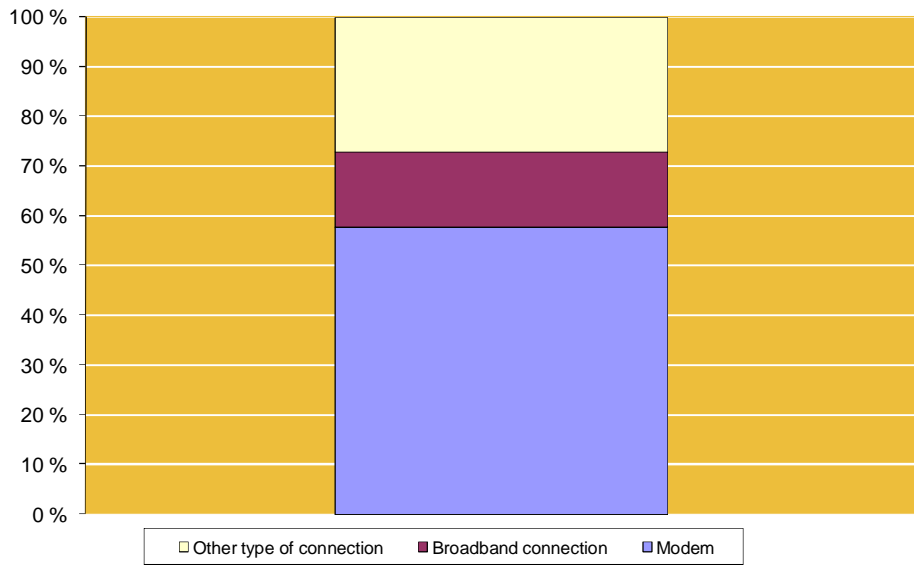


Figure 8 The type of connection companies have to the Internet

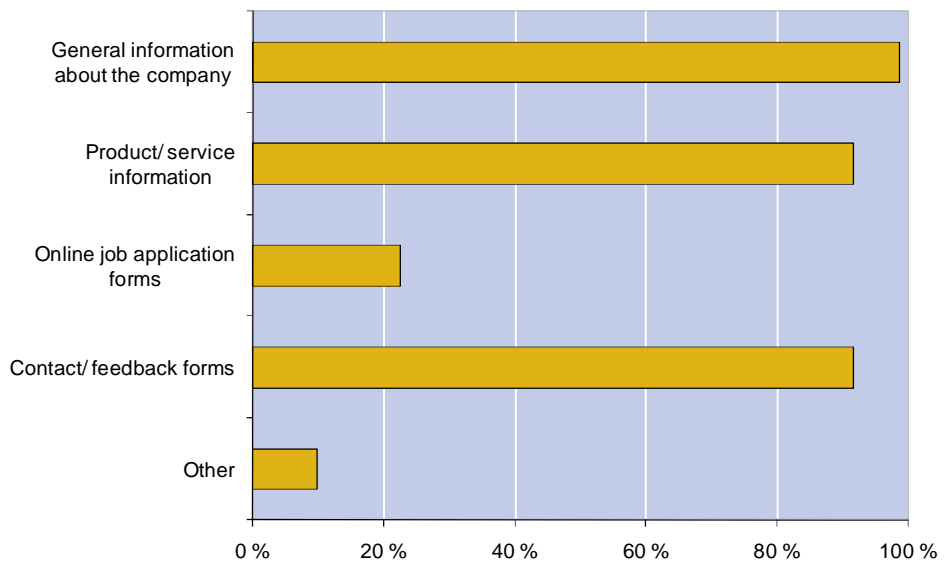
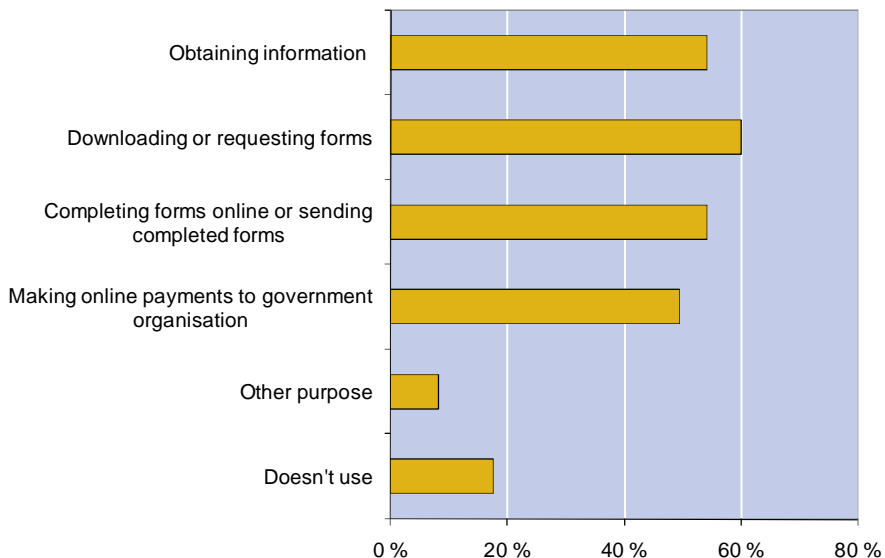


Figure 9 Different type of features that the company website includes

Websites are generally used for marketing purposes – in over 80% of the cases it is possible to find product/service information and also general information about the company. Contact/feedback forms are also common, but other information, such as online job application forms are quite rare. It is not surprising, considering that most of the

respondents are SMEs, where the rotation of employees could be rather slow and therefore the need for this kind of application is also low.



The different purposes companies use the Internet to interact with public authorities and government organisations

Over 50% of the 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 (over 50%; third in importance) is explained by quite high internet banking rate in Lithuania. 18% of the surveyed companies do not use Internet at all for communicating with public authorities.

To the question if the companies used the Internet for clearing goods through Customs, 19% of the companies answered positively. It is a quite low percentage compared to the overall use of Internet for communicating with public authorities. It can be explained by the big number of SMEs who are in most cases oriented to the local market and have little contact with international trading.

3.3 E-commerce/ E-business

The importance of E-mail communication for Lithuanian companies is very high; similar applies to telephone/fax.

Traditional means like personal visits are used in over half of the companies simultaneously. Regular post is used approximately in 40% of the companies.

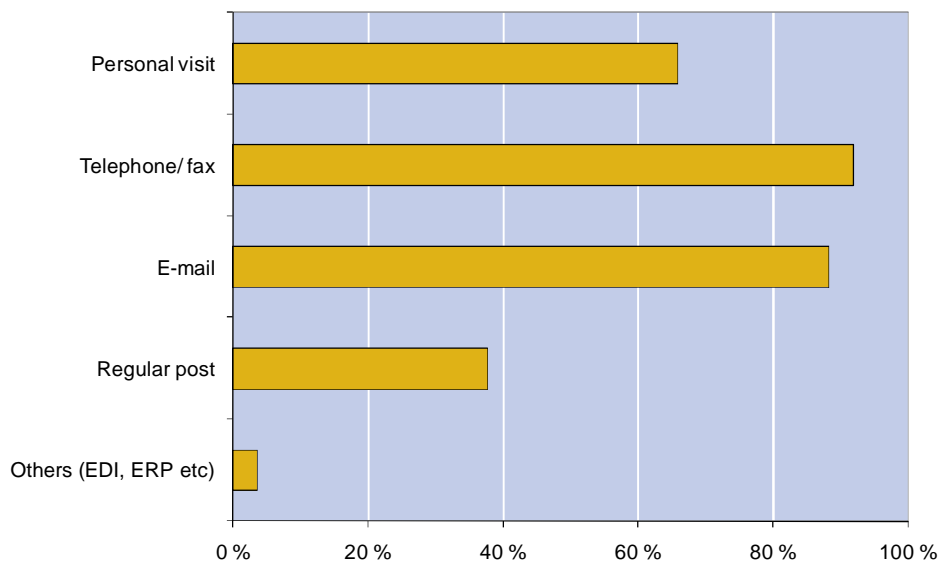


Figure 10 The type of communication methods the organisations use when communicating with customers and suppliers

Other possibilities are used rarely as they need special technology/software and training. Developing a special system just for the company is not considered reasonable among SMEs, but may be the case among large companies.

As can be seen from Table 4, 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 pressure coming from both customers and suppliers concerns online order tracking, which is forecasted to develop the most within the next three years, and most likely will demand investments. Some possibilities for further development are seen in After Sales support, which concerns more suppliers than customers.

Table 4 The type of business processes between the companies and their customers/ suppliers are handled electronically

	Customers		Suppliers	
	Now	In 3 Years	Now	In 3 Years
Order placement for products/ services	26	28	32	30
Order tracking/ service status available online	13	21	15	21
Payment possibilities	26	27	26	31
After sales support	13	13	3	9

Table 5 The share of companies business that is handled electronically

	0 %	1-19%	20-39%	40-59%	60-79%	80-100%	Total
Customers	2	10	4	6	0	0	22
Suppliers	0	13	1	5	7	7	33

Table 6 The companies' opinion on what the development of the share e-commerce will be in their business operations

	Decrease	Remain the same	Increase
Customers	0	15	26
Suppliers	0	10	24

There is more business handled electronically with suppliers than with end-users and customers. The low share of E-business with customers is a result of underdeveloped e-commerce systems and also national legislation and protection. Internet trading has not yet gained enough credibility among the people so that the companies would be willing to invest in developing Internet shops and other means for E-trading. On the other hand, security is not an issue in supplier relations.

The development of e-commerce is seen similarly from the customers and the supplier's side. In both cases, about one third believes that the share will remain the same, and two thirds have prepared themselves for the increase.

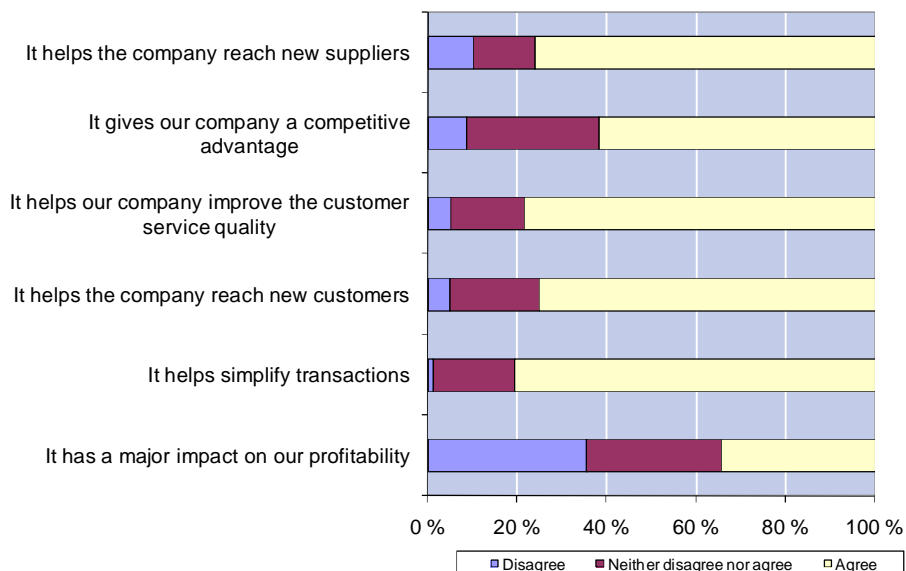


Figure 11 Companies views on the importance of e-commerce.

Companies believe E-commerce has a significant effect on several 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. The respondents do not agree that strongly about the competitive advantages and profitability e-commerce creates, but still about 30% have a positive attitude towards this perspective.

3.4 General assessment of ICT usage

The biggest and only barrier companies see on using Internet concerns security issues. Expenses on the development and data exchange are not seen as problems. Surprisingly neither is web surfing nor lost working time seen as problems concerning the use of Internet. There are no obstacles at all seen on the use of e-commerce solutions.

Payments and contractual issues are areas where providers of Internet banking or even the government have done the best job, reflecting a very high satisfaction amongst the users.

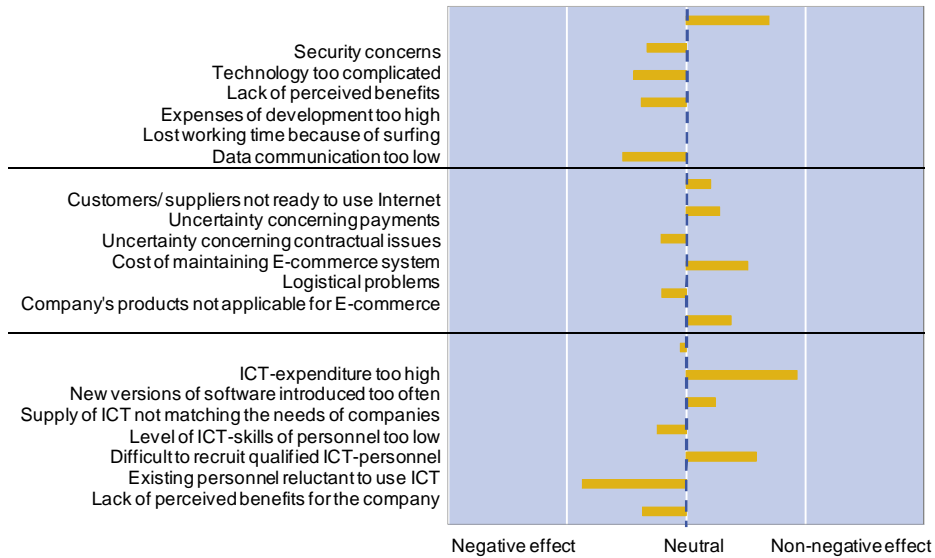


Figure 12 The effect of different barriers on the use of Internet, e-commerce and ICT in general.

There are quite a few barriers on ICT use in general. Too high ICT expenditures, too many new software versions and updates, supply of ICT not matching the needs of the companies and difficulties to recruit qualified ICT personnel, are the main perceived barriers. The last barrier was also mentioned in the Expert Interviews as an important obstacle that amplifies the importance of the problem. Figure 12 also confirms another positive conclusion from the Expert Interviews – the managers of Lithuanian companies are willing to use new solutions so that the reluctance of the personnel is not seen as an obstacle at all. Most of the conclusions made based on the Expert Interviews are confirmed by this survey, including the lack of qualified ICT personnel, lack of customer-oriented business solutions for the companies, etc.

4 SUMMARY AND CONCLUSIONS

1. The respondents of the survey were mainly micro and small companies representing a variety of sectors/industries in order to have an overview of the everyday use of ICT means and developments in the companies; therefore the similar number of respondents in each sector is an advantage.
2. The distribution of the respondents between Senior-, Middle Management and operational staff is almost equal (~30%). The predominance of the Senior Management responds to the dominance of micro-sized companies, where one of few employees is often owner or manager.
3. About 65% of the respondents assure that most of the company employees (>75%) have access to Internet and 57% have accordingly provided most of their employees with a company e-mail account. The main business areas where ICT is used in the companies are Accountancy and Marketing/Sales; only a few use ICT in production-related areas, but they are planning to start using it soon.
4. Only 30% of the respondents claim to have an own IT department. Most of the companies (~60%) are subcontracting ICT services, and affirm that specialized ICT service providers can provide higher quality services.
5. The overall trend shows that the main increase in costs is predicted for software. Increasing expenditures for software and hardware are at the same level, but are higher than for IT personnel. Password access control and virus protection applications are the most used measures of data security, but password usage and updates are a huge problem.
6. One third of the companies regularly monitor their ICT costs and performance internally. Also, 37% of the companies follow the same indicators on a client basis. Benchmarking is substantially less used, which may indicate that there is either no benchmarking information available, or the companies do not see the benefits of carrying out this analysis.
7. Over half of the respondents connect to Internet via modem; another 15% have a broadband connection and approximately 27%

have other type of connections (for examples, wireless, radio). Connections are state-of-the-art and correspond to the needs of the companies.

8. Websites are generally used for marketing purposes – in over 80% of the cases it is possible to find product/service information and also general information about the company. Contact/feedback forms are also common, but other information, such as online job application forms are quite rare.
9. Bearing in mind the level of Internet usage and the fact that most of the companies have websites including E-mail addresses, the importance of E-mail communication for Lithuanian companies is very high.
10. The pressure coming from both customers and suppliers concerns online order tracking, which is forecasted to develop the most within the next three years, and most likely will demand investments. Some possibilities for further development are seen in After Sales support which concerns more suppliers than customers.
11. The development of e-commerce is seen similarly from the customers and the supplier's side. In both cases, about one third believes the share will remain the same, and two thirds have prepared themselves for the increase. The simplification of transactions, the opportunities to reach new customers or suppliers, the improvement of the service quality are some of the benefits the companies perceive from e-commerce.
12. The managers of Lithuanian companies are willing to use new solutions so that the reluctance of the personnel is not seen as an obstacle at all. Most of the conclusions made based on the Expert Interviews are confirmed by this survey, including the lack of qualified ICT personnel, lack of customer-oriented business solutions for the companies, etc.

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APPENDIX

Appendix 1 Interview guideline

Module A Contact- and background information

1. Contact information

a) Company Name/Business Unit: [Open field]

b) Postal Code: [Open field]

c) Contact e-mail: [Open field]

(Provide this information if you wish to receive the customised survey report)

d) Respondent's position in the company [Drop-down menu]

Senior management Expert

Middle management Other

Operational staff

e) Please choose whether you wish to respond on behalf of the whole firm or a group of companies OR an individual business unit [Drop-down menu]

I wish to respond on behalf of the whole firm or a group of companies

I wish to respond on behalf of an individual business unit.

2. Please indicate the current number of employed people: [Drop-down menu]

1 -9 1000 – 1999

10 – 49 2000 – 4999

50 – 249 5000 – 10000

250 – 499 Over 10000

500 – 999

In the next 3 years, do you expect the number of employees to ... [Drop-down menu]

decrease increase

remain constant

3. What activity best classifies your company? [Drop-down menu]

Automotive industry

Manufacturing of textiles and textile products

Financing / Banking / Insurance

Publishing and printing

- Manufacturing of electrical and optical equipment
- Manufacturing of basic metals and fabricated metal products
- Manufacturing of pulp, paper and paper products
- Manufacturing of wood and wood products
- Manufacturing of chemicals, chemical products, and man-made fibres
- Manufacturing of food products and tobacco
- Wholesale Trade
- Retail Trade
- Government, Public Administration
- Energy Supply
- Construction
- Transport, Distribution and Logistics
- Health and Human Services
- Tourism and Leisure Industry
- ICT / Telecommunication
- Maritime Industry
- Other

4. Please indicate the total turnover of your company in the past year

[Drop-down menu]

- | | |
|--|--|
| <input type="checkbox"/> 0 – 2 M EUR | <input type="checkbox"/> 50.1 – 100 M EUR |
| <input type="checkbox"/> 2.1 – 5 M EUR | <input type="checkbox"/> 100.1 – 500 M EUR |
| <input type="checkbox"/> 5.1 – 10 M EUR | <input type="checkbox"/> 500.1 – 1000 M EUR |
| <input type="checkbox"/> 10.1 – 25 M EUR | <input type="checkbox"/> 1.1 – 5 billion EUR |
| <input type="checkbox"/> 25.1 – 50 M EUR | <input type="checkbox"/> over 5 billion EUR |

How do you expect the company's turnover to develop in the next 3 years?

[Drop-down menu]

- | | |
|--|-----------------------------------|
| <input type="checkbox"/> decrease | <input type="checkbox"/> increase |
| <input type="checkbox"/> remain constant | |

5. Does the company have other subsidiaries? [Separate tick box for each]

- | | | |
|--|---------------------------------------|--------------------------|
| <input type="checkbox"/> Yes, but only in (the home country) | | |
| <input type="checkbox"/> Yes, also abroad: | In the Baltic Sea Region ¹ | <input type="checkbox"/> |
| | Rest of Europe | <input type="checkbox"/> |
| | Other | <input type="checkbox"/> |
| <input type="checkbox"/> No | | |

¹ South-West Finland, Östergötland, Denmark, Hamburg, West-Mecklenburg, North-East Poland, Lithuania, Latvia, Estonia, St. Petersburg

Module B Use of ICT systems

6. What percentage of your employees has access to...? [Separate tick box for each]

	0%	< 25%	25-50%	51-75%	> 75%
Company E-mail account	[]	[]	[]	[]	[]
Internet	[]	[]	[]	[]	[]

a. If any option was answered with '0%':

Does the company plan to give access to company E-mail account/Internet to the employees in the future? [Drop-down menu]

[] Yes

[] No

7. Does the company use (or plan to use) ICT technology in following areas?

[Separate tick box for each]

	Use	Plan to use	Not use
Accountancy	[]	[]	[]
Marketing/Sales	[]	[]	[]
Production	[]	[]	[]
Production Planning	[]	[]	[]
Logistics/Stock keeping	[]	[]	[]
Sourcing/Supply	[]	[]	[]
Finance	[]	[]	[]
Human Resources	[]	[]	[]
Other: _____	[]	[]	[]

8. The company has ... (check both options if they apply to your company)

[Separate tick box for each]

[] an own IT department. With approximately _____ employees.

[] an IT service provider (IT outsourcing)

[] none of the above mentioned

How do you expect the outsourcing of IT services in your company to develop in the next three years? [Drop-down menu]

[] decrease

[] remain constant

[] increase

9. Please estimate the following ICT expenses expressed as % of company turnover in the past year. [Drop-down menu]

	0%	02-5%	2,5-5%	5-7,5%	7,5-10%	> 10%
Hardware	[]	[]	[]	[]	[]	[]

Software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b. How do you expect these expenses to develop in the next 3 years?

[Separate tick box for each]

	decrease	remain constant	increase
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Does your company have – and actively use/update – the following data security measures? [Drop-down menu]

	available	regularly used/updated
Password access control	<input type="checkbox"/>	<input type="checkbox"/>
Virus protection applications	<input type="checkbox"/>	<input type="checkbox"/>
Computer firewall applications	<input type="checkbox"/>	<input type="checkbox"/>
Employee education on data security	<input type="checkbox"/>	<input type="checkbox"/>
Own documented data security program	<input type="checkbox"/>	<input type="checkbox"/>

11. Please indicate the extent to which you agree or disagree with the following statements regarding “IT performance evaluation” from the perspective of your company (where: -2 = strongly disagree, -1 = disagree, 0 = neither disagree nor agree, +1 = agree, +2 = strongly agree, NR = no response)

	- 2	- 1	0	+ 1	+ 2
We regularly monitor and evaluate our IT costs and performance internally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We regularly monitor and evaluate IT costs and performance with selected suppliers and/or customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We regularly benchmark IT performance metrics against our competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Module C Use of Internet

12. What type of connection to the Internet does your company use? [Drop-down menu]

- Modem (via standard phone line)
- Broadband connection
- Other type of connection: _____

13. Does your company have a website. [Drop-down menu]

- Yes
- No (Go to question 16)

14. About the company's website...

a) Who designed and administers the website? [Separate tick box for each]

- an IT service provider
 the company's own IT department/special employees

b) Which of the following features does the website include? (Please check all that apply)

[Separate tick box for each]

- general information about the company
 product/service information
 online job application forms
 contact/feedback forms
 others: _____

15. Does your company use the Internet for interacting on a regular basis with public authorities/government organisations (Ministries, local governmental departments, Customs, etc)? [Separate tick box for each] Yes, the company interacts with public authorities/government organisations for...

- obtaining information (i.e. from websites or via e-mail)
 downloading or requesting forms
 completing forms online or sending completed forms
 making online payments to government organisations
 other (please specify) _____

 No**16. Does your company use the Internet for clearing goods through Customs?** Yes No**Module D E-commerce/E-business****17. Which of the following methods does your company use on a regular basis to contact customers/suppliers?** [Separate tick box for each]

- personal visit
 telephone/fax
 e-mail
 regular post
 Others (EDI, ERP, etc): _____

18. Which of the following business processes between your company and your customer/supplier are handled electronically (i.e. Internet, EDI, ERP)?

[Separate tick box for each]

	Customers	Suppliers
- order placement for products/services	<input type="checkbox"/>	<input type="checkbox"/>

Supply of ICT technology not matching the ICT needs of the companies	[]	[]	[]	[]	[]	[]
The level of ICT skills is too low among the employed personnel	[]	[]	[]	[]	[]	[]
Difficult to recruit qualified ICT personnel	[]	[]	[]	[]	[]	[]
Existing personnel reluctant to use ICT	[]	[]	[]	[]	[]	[]
Lack of perceived benefits for the company	[]	[]	[]	[]	[]	[]

(where: -2 = strongly disagree, -1 = disagree, 0 = neither disagree nor agree, +1 = agree, +2 = strongly agree, NR = no response)

	- 2	- 1	0	+ 1	+ 2	NR
<u>Regional e-Government activities</u>						
I'm satisfied with the existing e-Government offers	[]	[]	[]	[]	[]	[]
I'd appreciate more and better e-Government offers	[]	[]	[]	[]	[]	[]

Note: The actual questionnaire was performed in Lithuanian language.

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