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LITHUANIAN EMPLOYEES' ATTITUDES TOWARDS INTERNET AND E-MAIL USAGE AND SURVEILLANCE AT THE WORKPLACE

Author: Agnė Kostogriz

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Lithuanian Employees' Attitudes towards Internet and E-mail Usage and Surveillance at the Workplace

Agnė Kostogriz

Supervisor: Marina Pavlova

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Riga

Abstract

The following paper is the first study analyzing Lithuanian employees' attitudes towards Internet and e-mail usage and surveillance at the workplace. An online survey is used to collect the data for the study. The obtained information is analyzed by using regression analysis and statistical tests. The analysis shows that on average employees tend to spend around one hour a day for using the Internet and e-mail for personal reasons at work. The main factors influencing Internet abuse are found to be age, the number of supervised people and knowledge of existing filtering software at work. This kind of misuse can be best monitored by creating an Internet and e-mail policy or filtering and blocking systems in cooperation with employees. Furthermore, employees are found to be more willing to accept internet monitoring after it has been implemented.

Keywords: electronic monitoring, Internet abuse, Internet at the workplace.

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1 Introduction

The importance of the Internet and e-mail at work has increased substantially over the last several decades. There are a lot of benefits of the Internet that improved the workplace: the Internet reduced the time spent on searching for information, the Web increased communication between employees among different departments and levels as well as with business partners, the Internet also provided better customer service, etc. These advantages of the Internet made it to become one of the fastest growing and widely accepted technology at the business world. Statistics show that the world average of Internet usage at the business world is 4.21 on a scale from 1 to 7 (1 standing for low usage and 7 for high usage of the Internet at work) (Dutta & Mia, 2009). This means that more than half of the companies analyzed by Dutta and Mia use the Internet in order to communicate with customers and suppliers as well as within the company. This number proves that the Internet is a widely accepted technology used in everyday business tasks around the world.

However, as most of the new and fast growing technologies, the Internet and e-mail have also brought some negative aspects to the business world. With a wide range of possibilities that the Internet and e-mail provides, an employee might be lost in the cyberspace even during the working time. An attraction to surf the Net for non-work related information or just willingness to drop an e-mail to relatives or friends might seem to be innocent but results in a waste of the working time. Employers are concerned about the time their employees spend on personal activities as it might lead to a loss of productivity (Muhl, 2003). To avoid the productivity loss and abuse of the Internet and e-mail companies create different policies for regulating such activities. There are practices where companies monitor Internet usage or implement filtering software to be sure that unnecessary information is not accessible to employees (Greenfield & Davis, 2002).

There are different opinions about Internet and e-mail surveillance and the filtering software installation at the workplace. One side argues that employers should monitor their employees in order to avoid productivity losses and waste of company's resources. Furthermore, computers are perceived to be the property of firms, thus employers are responsible for legal and illegal usage of the Internet and e-mail (Whitty, 2003). Employers are mostly concerned about

employees engaging in harassment activities such as sending e-mails with the sexual content or visiting adult websites at the workplace (Nord, McCubbins & Nord, 2006).

On the other hand, employees argue that their usage of the Internet and e-mail is a private sphere and employers should not be able to have an access to it (Whitty, 2003). Another argument against Internet and e-mail monitoring is that surveillance can actually lead to lower quality of the tasks performed and higher stress at the workplace. As the experiment by Davidson and Henderson (2000) showed, people feel more stressed and perform lower when they are monitored while working on difficult tasks. Researchers agree that monitoring does not necessarily raise positive or negative emotions for employees and employers. To increase positive emotions from monitoring both groups should participate in the creation of the monitoring system and Internet and e-mail usage policies as tailor-made policies work best in this case.

In statistics of Internet usage at the business world Lithuania takes 33rd position out of 134 countries around the world with a score of 4.76 out of 7 (Dutta & Mia, 2009). This number demonstrates that Lithuanian companies have successfully adopted the Internet to their everyday business tasks. However, there are no data available on how much time employees spend using the Internet and e-mail for personal purposes as well as about the best practices in Lithuania of Net monitoring. Therefore, this paper is going to investigate usage of the Internet and e-mail at the workplace by Lithuanian employees, ways how Lithuanian companies implement Internet and e-mail monitoring policies if they have such, and finally employees' attitudes towards Internet and e-mail surveillance. The research question consist of two parts and is hence formulated as follows: **(1) What are the main factors that influence Lithuanian employees to use the Internet and e-mail for personal reason at the workplace and (2) what are the most desirable ways to monitor usage of the Internet and e-mail from the perspective of employees?**

In order to answer the research question the population of employees who have the Internet and e-mail connection at their workplaces is defined. To reach as many individuals falling into this population as possible, two sampling techniques are used. Firstly, a non-proportional quota sampling approach is used and 40 Lithuanian listed companies selected. Secondly, contact persons of these companies are approached in order to start the snowball effect. In addition to that, other companies are selected to maintain a sufficient number of

respondents from different industries. To receive the knowledge how the Internet and e-mail are used by employees of those companies and what are their attitudes towards Internet and e-mail surveillance an online questionnaire is designed and distributed. Received results are then analyzed using statistical software, more specifically, using logistic regressions, mean comparison tests ANOVA and t-test and frequency tests.

By answering this research question, the study adds supplementary information to the current literature by providing an insight about the Lithuanian culture of Internet and e-mail usage at the workplace. Furthermore, key factors influencing the time spent online by employees for personal reasons are identified. Also, Internet and e-mail surveillance practices of Lithuanian companies are shown. This research will help managers to recognize the depth of the problem as well as to find the most appropriate ways to solve it as the employees' opinion regarding what should be allowed at the workplace and not is asked and analyzed.

The remainder of the paper is constructed as follows: section 2 discusses the relevant literature available on topics of Internet and e-mail usage, Internet and e-mail surveillance and monitoring acceptance; section 3 describes the methodology of the research used; section 4 provides results of the survey; section 5 gives the discussion of the results and provides suggestions for Lithuanian companies; finally section 6 will conclude the paper and provide suggestions for further research.

2 Literature review

A lot of research has been done on a topic of the usage of Internet and e-mail at work (Muhl, 2003; Madden & Jones, 2008; Whitty, 2004). They mainly deal with problems the Internet and e-mail had brought to the workplace, such as time-waste, "cyber slacking" (overuse of the Internet for non-work related purposes (Whitty, 2004)), productivity losses, the possibility to perform illegal activities through the Internet. A large part of those studies also analyze and describe possible ways of controlling such problems while others are only concerned with the abuse of the Internet and e-mail. Another significant part of the academic literature about the use of Internet and e-mail at the workplace discusses employees' attitudes towards and the acceptance of monitoring.

2.1. Literature about Internet usage

To find out how employees are using the Internet and e-mail at the workplace numerous surveys have been conducted. Muhl (2003) uses data from Vault.com survey. This survey was conducted in order to investigate how the Internet and e-mail are used by Americans at the workplace and what effects such usage has on productivity. 1,244 employees and 1,438 employers from the USA filled in the questionnaire. The survey showed that over 87% of employees thought that it is appropriate for them to surf the Internet for non-work related purposes during a working day. 55% of those respondents indicated that a proper time range for such activities is from 15 to 30 minutes per day. Furthermore, 84% of the surveyed employees sent personal e-mails constantly during working hours. Of all the 1,244 workers who filled in the questionnaire 57% agreed that such non-work related activities decreased their productivity. Surprisingly, employers who filled in the questionnaire had a very similar opinion to their employees'. 85% of employers agreed that it is appropriate for employees to spend some time for non-work related purposes on the Web and most of them indicated that anything between 15 and 30 minutes is a suitable time period. Most of the employers also agreed that personal e-mails should be allowed at the workplace.

A later survey which was reported by the American Management Association (2005) found that about 45% of 10,044 respondents say that Internet usage for personal reasons is the most common way of wasting time at the workplace. Several reasons are stated for why employees choose to waste their working time, the most common of which are: a lack of working tasks, thoughts that he/she is underpaid for work, distraction by co-workers, and not enough free time on evenings or weekends. Out of those three mentioned the most common reason is the lack of working tasks given to accomplish. Also, according to the survey results the older a person is the less time he/she wastes. The follow-up survey revealed that managers are aware of the fact that employees will waste some working time for non-work related purposes and that employers have already accounted for this waste in employees' salaries.

One of the most recent studies by Madden and Jones (2008) showed that about 22% of Americans who have access to the Internet at their workplace do online-shopping during their working time. The survey also revealed that about 18% of respondents are sending instant messages at their workplace while about 10% visit social or professional networks such as Facebook, MySpace or LinkedIn. Such results were obtained by conducting 2,134 telephone

interviews with American citizens from the continental part of the United States. From the whole sample 1,000 respondents identified themselves as full- or part-time employees.

Surveys have showed that employees tend to waste their working time by surfing the World Wide Web for some time each day. They have also showed that employers are aware of this problem and agree that some freedom should be given for workers. However, employers are concerned about the time wasted by their employees, as well as the legal issues of Internet surfing and e-mailing. Thus, some managers implement Internet and e-mail usage policies; another group of managers monitor their employees while still others use additional software.

2.2. Literature about Internet monitoring

There is a wide range of ways how employers can deal with Internet and e-mail usage at the workplace for non-work related purposes. The most common ways are discussed in studies described below.

Davidson and Henderson (2000) conducted an experiment regarding e-monitoring. Their experiment showed that employees perform better at completing easy tasks when they are monitored. In this situation they are more focused on the specific task at hand. On the other hand, employees perform poorer at completing complicated tasks while being monitored. They feel tension and are more stressed when they are monitored while completing complicated tasks. The results suggest that monitoring should be tailor-made for each employee according to the level of difficulty of the tasks that he/she is performing. However, according to the authors, determining what is perceived to be difficult tasks and easy tasks requires a lot of time and resources of a company, thus it is not very likely that such type of monitoring will appear.

In a study conducted by Greenfield and Davis (2002) USA managers were asked to fill in a questionnaire regarding Internet and e-mail monitoring. Results showed that about 82.6% of 224 companies have Internet access policies (IAP) in use. Despite the use of the IAP more than 30% of the companies have terminated their employees for inappropriate use of the Internet at the workplace. Many companies do not take serious actions to avoid Internet misuse by their employees. Almost 60% of the companies use self or managerial oversight to control Internet usage, while only 37.5% of respondents stated that their companies are using Internet filtering software. The study showed that employers are aware of the possible misuse of the Internet at work but they do not take any serious actions to avoid this type of abuse.

Another researcher found that about 62% out of 524 employees who participated in an Australian survey stated that their company has a policy regarding Internet and e-mail usage at the workplace (Whitty, 2004). 19% of the respondents stated that their company did not have a policy regarding Internet and e-mail usage at the workplace. Results also suggest that there is no single way of dealing with Internet abuse. Despite the fact that policies or filtering software are useful, they do not solve the problem perfectly. Thus, the Netiquette solution was raised by Whitty. She suggests that employees should not only know the existing Internet and e-mail policies but they should also follow them. Furthermore, employees should use the Internet and e-mail in a way that it would not disturb others. For example, employees should not send chain e-mails as it was found to be the most annoying subject to receive. The study suggests that whatever the surveillance option is implemented at the workplace, employees should be fully introduced to it and in the best case should participate in the implementation.

An article written by Nord, McCubbins and Nord (2006) discusses the topic of Internet and e-mail usage at the workplace more from the legal perspective. It states that employers are concerned about a possibility to receive subpoenas due to misuse of the Internet and e-mail by their employees. To avoid subpoenas, employers are willing to monitor their workers. According to USA laws, employers as providers of computers and the Internet are allowed to monitor their employees to prevent sexual harassment, ensure legal activities online, etc.[1]

The latest survey conducted by the American Management Association (2008) reports that about 65% out of 304 companies which participated in the survey use software to block employees from accessing inappropriate Internet sites. Employers were mainly concerned about adult sites, gaming sites or social networks. Out of the whole sample, more than 70% of the companies use e-mail filtering software. According to the results, 83% of employers fully inform their workers about computer based surveillance. Furthermore, more than 70% of respondents inform their employees about the fact that their e-mails are being monitored. The survey raised the question whether informing employees about the existing policies is enough to ensure that rules will be followed.

[1] In Lithuania, employers are able to monitor their employees' Internet and e-mail usage to assure the productive working environment (Civilka, 2002).

Articles on the topic of Internet and e-mail monitoring have showed that the number of ways and the amount of monitoring have been increasing during time. However, an increase in surveillance does not necessarily lead to a decrease in Internet and e-mail abuse.

2.3. Literature about employees' acceptance of Internet monitoring

Some employees agree that the introduction of Internet and e-mail at work has caused the decrease in their productivity (Muhl, 2003) as the temptation to use them for personal reasons is higher than they can sometimes manage. Thus, employees are not against Internet monitoring in general but most of them would like to have some privacy and autonomy at their workplace.

Stanton and Weiss (2000) conducted a study in which they ask 49 employees to answer questions regarding monitoring and their personal experiences. Results showed that with the presence of monitoring, employees tend to adjust their Internet usage habits. They understand that each personal e-mail can be read by the employer or their time spent in the Internet can be tracked down. Despite that, 89% of respondents said that they did not feel monitoring being annoying or disturbing. Authors agree that their study can hardly be generalized to the society as a whole but the research still adds some valuable insights about this topic.

Researchers Ho and Lui (2003) analyzed the acceptance of Internet filtering and the factors influencing it. In their study of publicly accessible computers and Internet filtering software, they found out that a person's demographics, such as age, gender, and perception of the Internet, such as perceived harms of the Internet, perceived usefulness of Internet and e-mail filtering software, are significant determinants in explaining the acceptance of Internet filters. The results showed that women and older people are more likely to accept Internet filters, especially when they are blocking adult-orientated and sexual material online.

In a study of Australian employees' attitudes towards Internet usage and surveillance at the workplace Whitty (2004) asked workers to state what in their opinion should be allowed and what should be limited at the workplace. Results showed that e-mail is number one on the list of what employees would like to be allowed to use. Employees argue that e-mails and the telephone are similar modes of communication, thus employees should be allowed to use e-mail for personal reasons just as they are allowed to use telephone. 17% of respondents stated that visiting informative websites like news, politics and weather should be allowed at the workplace just as reading newspapers. More than 60% of employees said that offensive material such as

pornography, discriminating material, etc. should be banned from the workplace. Out of these 60% there were more women than men, which support the findings of Ho and Lui (2003). Moreover, employees who were not monitored were more likely to state that there should be no restrictions regarding Internet access while those who were already being monitored agreed on the necessity of Internet monitoring. This finding suggests that Internet monitoring was implemented successfully in Australian workplaces and that employees do not find it disturbing. When asked about Internet filtering software, workers' answers differed according to their time spent online and whether they were already being monitored at the workplace or not. Employees who spent more time on the Internet for personal reasons during a work day were more likely to disagree with the installation of filtering software. Workers who were not monitored had the same opinion as those who spent a lot of time online. Additionally, the survey revealed that employees whose companies had Internet usage policies were more willing to participate in the Net filtering process. Results showed that there are different opinions on the possible means of Internet and e-mail surveillance, but they also proved that different Internet access policies seem to be successfully accepted by employees in Australia.

One of the latest studies done in the sphere of employees' acceptance of monitoring and filtering software suggests that prior beliefs and ethical orientation take a significant part in the acceptance of monitoring (Alder, Schminke, Noel, & Kuenzi, 2008). The study is the first longitudinal attempt to find what effects individual differences have on employees' reactions to the introduction of monitoring. The authors collected information about employees' beliefs and ethical orientation before and after the implementation of monitoring. Findings suggest that ethical formalism[2] leads to the feeling that monitoring is an invasive action towards employees' privacy. Similarly, ethical utilitarianism[3] supports the feeling that Internet monitoring might be a useful tool to minimize Internet abuse at the workplace. The results also showed that employees see the decision to install monitoring software as a top-management action not on the level of supervisors, thus there is no decrease in employees' trust in their supervisors. The study by Alder

[2] Ethical formalism – (principle-oriented principle) it is our moral duty to choose the course of action that is in accordance with an intrinsically valid principle, rule or right, regardless of the consequences. (Luijk, 1994)

[3] Ethical utilitarianism - (result-oriented principle): the greatest happiness of the greatest number. It is our moral duty to choose that alternative action, which, in its results, contributes most to the aggregated welfare of all those concerned. (Luijk, 1994)

et. al. showed that employees have different attitudes towards monitoring based on their prior feelings.

Studies suggest that there are a lot of factors which influence employees' acceptance of monitoring. As some researchers have found, acceptance depends on Internet usage prior to monitoring and the ways how monitoring and filtering software were implemented. Furthermore, some studies showed that Internet and e-mail monitoring should be implemented according to the individual's position in the company and his/her working tasks, which suggests that tailor-made policies would suit best.

2.4. Hypotheses

No research has been done to investigate Lithuanian employees' (or any other Baltic country employees') attitudes towards Internet usage and surveillance at the workplace. As it can be seen from the articles discussed above, employees exceedingly tend to use the Internet and e-mail for personal purposes at the workplace. The main determinant for the misuse of Internet and e-mail is age – the older the employee is the less time he tends to waste (American Management Association, 2005). Other possible determinants include level of responsibility and management level of the employee and the sector in which the respondent's company is operating (Whitty, 2004). These determinants were not previously analyzed but are thought to have an impact on the amount of time spent for using the Internet and e-mail for personal purposes at the workplace. Looking from a behavioral perspective the most common reason for Internet and e-mail abuse is the lack of tasks given to accomplish (American Management Association, 2005).

The literature revealed that employers are aware of the problem of possible Internet misuse but do not take serious actions to prevent it. Most employers are mainly concerned about the legal liabilities which might be caused by Internet and e-mail misuse by their employees, especially through downloading or sending sexual material. To avoid this issue some companies use Internet and e-mail policies, others implement monitoring or filtering software. There are differences among employees with respect to the perception of different means of surveillance. However, academic literature on the acceptance of Internet and e-mail surveillance has shown that employees who use the Internet and e-mail for personal purposes at their workplace a lot are not wiling to be monitored. Whereas employees who have already been monitored do not face severe problems in following the rules and do not think that surveillance is disturbing.

Additionally, women are more likely to accept Internet and e-mail filtering or blocking software than men. The literature depicts the issue from different angles and shows that there is no common situation of Internet and e-mail misuse for the whole world as well as there is no single solution how to preventing the misuse. Thus, it is vital for Lithuanian managers to understand employees' attitudes towards Internet and e-mail usage at the Lithuanian workplace and to know how they can monitor the employees if there should be a need for this.

The following study will investigate the pattern of Internet and e-mail usage at the workplace by Lithuanian employees and what are the underlying reasons for this, discuss the ways how Lithuanian companies control Internet and e-mail usage, and finally investigate Lithuanian employees' attitudes towards Internet and e-mail surveillance. Despite the fact that there were no previous research done in the sphere of Internet and e-mail abuse and surveillance at the workplace in Lithuania, plausible hypotheses are raised based on the results and suggestions of previous researchers from other countries.

The hypotheses raised in this study are:

H1: (a) Key determinants influencing the decision to abuse the Internet and e-mail at work are age, responsibility level and sector of the company.

(b) The most common applications used by employees are personal e-mail and news portals.

(c) The most common reason for Internet and e-mail use for personal purposes is the lack of work given to accomplish.

H2: (a) The most desired way of monitoring by employees is to participate in the creation of the monitoring system.

(b) Employees are willing to have sexual material filtered from their workplace.

(c) Employees whose companies do not have Internet and e-mail usage policies are against any kind of monitoring.

(d) Women are more in favor of surveillance than men.

3 Methodology

A survey approach is used in order to investigate the current trends of Internet and e-mail usage, Internet and e-mail monitoring practices, as well as employees' attitudes towards surveillance in Lithuanian companies. The population of employees who have access to the

Internet and e-mail at work is defined and sampling techniques are described below. Also, a description of the questionnaire is provided. Furthermore, statistical methods used for the analysis of results are described in this chapter.

3.1. Sample

The population of the study is all Lithuanian employees who have access to the Internet and e-mail at their workplace. To best represent the population a combination of non-proportional quota sampling and snowball sampling techniques are used. Both methods are non-probability purposive sampling approaches which imply that respondents are not selected randomly but rather due to their characteristics (Social Research Methods, 2010). Non-proportional quota sampling is often used in research in order to compare the results retrieved from different groups of people. Compared with quota sampling, this technique is less restrictive as the researcher does not have to have strict proportions of each group within the population (Social Research Methods, 2010). Non-proportional quota sampling is beneficial when the exact size of the population is not known and cannot be estimated accurately, like in the case of Lithuanian employees from different industries who have the Internet connection or e-mail at their workplace. Using this type of sampling, the researcher selects the adequate number for each group of the population to assure that majority groups are represented as well as the minority ones (Social Research Methods, 2010). In this study a basis for non-proportional quota is the sector of a company a respondent works at. Non-proportional quota sampling allows a comparison of Internet and e-mail usage and surveillance between industries and provides a better overlook of the topic on a country level. Due to a time constraint and voluntary and anonymous participation in the survey a minimum number of respondents from one sector is not set but rather the size of all groups is tried to be kept as equal as possible.

Snowball sampling is the technique where respondents suggest further possible respondents or spread the questionnaire themselves (Social Research Methods, 2010). Despite the fact, that there is little control over snowball sampling (Castillo 2009), it might be the best method to reach as many respondents falling into the sample of the research as possible. In the case of Lithuania, there is no data about employees who have access to the Internet or e-mail at their working place. Thus, identifying some of them and asking to send the message further might be the most efficient and effective way of reaching the target group of the study.

The first step of sampling was to use primary non-proportional quota sampling approaching Lithuanian companies which are listed on the NASDAQ OMX Baltic Vilnius market (see appendix A). This list was selected due to the wide range of industries included in it. In total there are 40 companies which belong to eight industries (NASDAQ OMX Baltic, 2009). A contact person of each company was asked to fill in the questionnaire and to forward the message to his/her colleagues who matched sample requirements and, thus, start a snowball effect. In a majority of the cases snowball sampling approach was the only way to reach employees falling into the population as contact information was available only for a few employees in each company. Additionally, some companies from different industries (e.g. telecommunication services) have a lot of blue-collar workers. Therefore, it was clearly specified for the first respondent that the target sample consists of employees who have access to the Internet and e-mail at their workplace in order to get the most appropriate sample.

The next step was to approach additional companies to maintain the number of respondents from different industries more equal. The additional list of companies approached directly can be found in appendix B. However, the real list of companies reached is not known as respondents were asked not only to fill in the questionnaire themselves but also to forward it to their colleagues. Furthermore, respondents were not asked to state their company name in the questionnaire as this would have violated the anonymity of the respondents.

The sample of employees from different industries gives a broader overlook of Internet and e-mail usage and monitoring practices in Lithuania. In the sample there are employees from the financial sector where most of the employees have access to the Internet and e-mail at their workplace. Also, there are employees from the energy sector where only around 13% of the company's employees are working in offices and might have access to the Internet and e-mail at their workplace (Rytų Skirstomieji Tinklai, 2008). These differences between sectors provide a better understanding of Internet and e-mail usage and monitoring policies on the country level.

3.2. Survey

To collect appropriate information for the study a questionnaire was designed. Most of the questions were grounded on questions from previous research and surveys which were discussed in the previous chapter as well as following suggestions of the previous researchers. For example, Whitty (2004) suggested analyzing Internet and e-mail usage at different

responsibility levels and industries, thus questions regarding the number of people a respondent has to report his/her work results to, how many employees he/she supervises and in which sector the individual is working were included into the questionnaire. Additionally, recommendations of respondents to the pilot questionnaire were considered and accepted where applicable.

Questions of the survey are divided into three parts (see appendix C): Internet and e-mail usage at work, Internet and e-mail surveillance at work and general questions. The first part consists of questions related to employees' usage of the Internet and email at work. It consists of questions asking how often respondents use the Internet and e-mail at work and how often they use them for personal purposes. This should help to find out whether or not employees in Lithuanian companies misuse the Internet and e-mail at their workplace. The first part also helps to find out for what purposes employees use the Internet and e-mail. A detailed list of Internet and e-mail applications is provided for respondents to mark the frequency of usage for each item. The list was compiled based on the findings of previous research. In addition to that, exact numbers of e-mails sent and received in total and for personal reasons are requested in order to have a better estimation of e-mail misuse. Also, questions regarding why respondents use the Internet and e-mail for personal reasons at the workplace are included. One of these types of questions asks respondents about their Internet usage habits outside the workplace to see whether the extent of Internet and e-mail usage for personal reasons can be explained by the fact that a person does not have Internet connection at home or rather because he/she might have Internet dependence. Questions from the first part are supposed to show whether or not there is an Internet usage problem in Lithuanian firms and help to answer the first part of the research question: what the main factors that influence Lithuanian employees to use the Internet and e-mail for personal reason at the workplace are.

The second section of the questionnaire includes questions regarding surveillance of the Internet and e-mail at the workplace. Questions about current monitoring policies are included. They are expected show if there is a common practice to have an Internet and e-mail usage policy at work and if this policy is followed by employees. Additionally, answers to those questions will show whether or not companies use other ways to control the actions of their employees. Furthermore, employees' opinions regarding what should be allowed, banned or filtered at the workplace in terms of Internet and e-mail usage are asked for by including several multiple choice questions into the survey. Closed-ended questions are chosen because they

require less time for the respondent to answer them and are afterwards easier to analyze (Metagora, 2006). Considering the length of the questionnaire and limited resources, closed-ended questions seem the most appropriate tool for collecting employees' opinions about Internet and e-mail surveillance at the workplace. Possible answers to those questions were taken from the study of Whitty (2004) where respondents were asked to fill in open-ended questions. The most frequent answers from Whitty's work are used in this questionnaire. Respondents are also asked to rate several statements about Internet and e-mail surveillance using a 5 degrees Likert scale from "totally disagree" to "totally agree". Additionally, several questions regarding sexual material at the workplace are asked. Those questions were included into the questionnaire because according to Ho and Lui (2003) people accept monitoring and filtering software easier if it is intended to filter adult-oriented material. Questions from the second part of the questionnaire are designed to answer the second part of the research question: what are the most desired ways of monitoring Internet and e-mail usage for Lithuanian employees.

The last part of the questionnaire is aimed at collecting general information about respondents which is going to help to find the determinants of Internet and e-mail usage at the workplace for personal reasons. A question about the sector in which a respondent is currently working is included in order to see whether there are differences in Internet and e-mail usage and surveillance among industries. Additionally, respondents are asked to state how many persons they have to report their work to and how many people they supervise in order to compare Internet and e-mail usage between different responsibility levels of employees. This type of questions is chosen due to the complex hierarchical structure in Lithuanian companies. For example, the title "manager" in Lithuanian companies is used to describe different kind of positions: HR manager, marketing manager, customer manager, sales manager. Despite the fact that all these job titles use the same word "manager" the responsibility level of such employees differs substantially. Therefore, the number of employees that a respondent supervises and the number of employees that he/she has to report his work results to produces a more appropriate proxy for the level of responsibility. This proxy shows where in the hierarchical pyramid of the company the respondent stands.

The survey was translated into Lithuanian to assure that all questions are properly understood by employees. Before sending the survey to companies and individuals, it was piloted with eight employees from different companies. The piloting was necessary to avoid

misinterpretations and other possible errors. Suggestions and comments from respondents who piloted the questionnaire were considered and included into the questionnaire where they were applicable. For example, respondents commented that a question “What kind of information in your opinion should be allowed to be sent via e-mail at the workplace?” had only negative answers and offered to include positive answers like “e-mails with conversations with friends and family” or “meeting arrangements with friends and family”. The recommendation was implemented into the final version of the questionnaire.

To receive as many responses as possible the survey was published online. A link to the questionnaire was primarily sent to contact persons of the 40 companies listed on the NASDAQ OMX Baltic Vilnius list with the request to fill in the questionnaire and forward the link to employees who have access to the Internet and e-mail at work. Additionally, the same link was sent to other companies in order to maintain non-proportional quotas for the variable “sector”.

3.3. Procedure

To analyze obtained data SPSS statistical software is used. More specifically, regressions and test tools are used in order to answer the dual research question. To find the answer to the first part of the research question: what main factors which influences employees Internet and e-mail usage for the personal reasons at work are, logistic regressions using the backward Wald method are used. The backward Wald method is chosen due to its feature of moving backwards stepwise from the initial regression towards the regression model in which all variables have a significant impact on the dependent variable (Garson, 2009). A step backwards in the model is made automatically by dropping out one variable at a time. This method is more appropriate than the forward stepwise regression model as it provides a possibility to see what significance level the dropped variable had and, if necessary, to adjust the requirements for dropping out or including a variable. Furthermore, this model was used in other studies where Internet and e-mail usage and surveillance were analyzed (Whitty, 2004). Results of the regression give values by which the probability that the respondent uses the Internet and e-mail at the workplace for non-work related material changes, given a change in an independent variable (Garson, 2009).

In the logistic regression the binary variable of interest is the time spent using the Internet and e-mail at work for personal reasons. The variable is constructed by assigning 1 for Internet and e-mail usage at the workplace for personal reasons of more than 1 hour a day and 0 for less

than 1 hour. Literature suggests that employers are aware that their employees are wasting some of their working time and have accounted for this in the employees' salaries (American Management Association, 2005; Muhl, 2003). Employers have also indicated that spending 15 to 30 minutes of the working time for non-work related activities is seen as appropriate and does not constitute a significant loss for the company (Muhl, 2003). Spending over an hour per day using the Internet and email for personal reasons is seen as a waste of working time. Therefore, a binary dependent variable that equals 1 when Internet and e-mail usage for personal reasons exceeds one hour will reveal determinants that influence Internet and e-mail usage of an extent which is seen as a loss by employers.

Possible factors influencing the time spent using the Internet and e-mail for non-work related purposes are age, gender, occupation, period of working for the company, responsibility level, income level of the respondent, and the sector of the company. Additionally, variables of how much time the respondent spends using the Internet and e-mail at home and the respondent's knowledge about the existence of an Internet and e-mail usage policy, filters or blocking software are included. All independent variables, except age and responsibility variables, are treated as binary variables in the logistic regression. Age and responsibility variables are treated as numeric variables in the regression. The full regression equation is as follows:

$$Logistic\ (Internet\ user) = \beta_0 + \beta_1(Age)_i + \beta_2(Gender)_i + \beta_3(Occupation)_i + \beta_4(WorkingPeriod)_i + \beta_5(Responsibility)_i + \beta_6(Income)_i + \beta_7(Sector)_i + \beta_8(HomeUsage)_i + \beta_9(Policy)_i + \beta_{10}(Filtering)_i + \beta_{10}(Blocking)_i + u_{if}$$

Mean comparison tests are used to see whether there are differences between groups of Internet users regarding the acceptance of Internet and e-mail monitoring and filtering. The factors for dividing Internet and e-mail users into groups are: whether or not the respondent's company has an Internet and e-mail usage policy, whether or not the respondent follows policy instructions, whether or not the respondent's company has implemented other ways of monitoring, the time spent using Internet and e-mail for non-work related material at work and gender. The inter-group differences are expected to appear regarding questions about what should be monitored, filtered or banned as well as the questions where respondents were asked to agree/disagree with certain statements about Internet and e-mail surveillance. These tests will

help to answer the second part of the research question about the most acceptable Internet and e-mail policies by employees.

Additionally, frequency tests are used to see, for example, how often different Internet applications are used by respondents. Frequency tests are also used to see what the most frequent reasons for employees to use the Internet and e-mail for non-work related purposes at work are, what the most preferred surveillance option is and others. To see whether differences between answers are statistically significant, one sample t-tests are performed. Frequency tests provide an additional insight into the issue and help to confirm or reject the following hypotheses: "the most common applications used by employees are personal e-mail and news portals", "the most common reason for Internet and e-mail use for personal purposes is the lack of work given to accomplish", "the most desired way of monitoring by employees is to participate in the creation of the monitoring system" and "employees are willing to have sexual material filtered from their workplace".

Regressions and tests help to answer the research question by showing what the most important factors concerning the extent of internet and email usage are, which applications of the Internet are most frequently used, what the most common excuses for Internet and e-mail usage are and whether or not there are significant differences between groups of employees with respect to Internet and e-mail surveillance. The reliability and validity of the study are discussed in the following chapter.

3.4. Reliability and validity

A study is reliable when repeating the study several times would provide researchers with the statistically similar results each time (Shuttleworth, 2009). This study on Lithuanian employees' attitudes towards Internet and e-mail usage and surveillance at the workplace can be seen as a reliable study for several reasons. First of all, the questionnaire is based on previous studies done in this field, and a thorough piloting exercise was carried out to eliminate possible misinterpretations. Second of all, the study analyzes the perception of employees from a wide range of different industries and from different demographic backgrounds. Employees from a different background provide more sound analysis of the topic on the country level and provide results which are more reliable. Furthermore, the sampling techniques employed for the research allow reaching more individuals falling into the research sample.

Although the sampling techniques allow reaching a broader range and larger number of respondents, they do not allow selecting respondents randomly (Social Research Methods, 2010). Thus, the results of the study can hardly be generalized to the whole population of Lithuanian employees who have Internet and e-mail connection at the workplace. This limitation of not reaching employees directly and randomly decreases external validity of the study (Shuttleworth, 2008).

Nevertheless, the study has sustained its internal validity. There is a clear causal relationship between the dependent and independent variables in the regression analysis and tests. The main factors from different aspects of Lithuanian employees' life and work which could influence their attitudes towards Internet and e-mail surveillance at the workplace are collected and analyzed. The causality was also previously tested by other researchers whose works were discussed in the "Literature review" part.

It can be concluded that the study provides reliable and internally valid results. However, due to specific sample characteristics and therefore the necessary use of snowball sampling technique, the results of the study have limited external validity.

4. Results

4.1. Descriptive statistics

The research sample consists of employees who have access to the Internet and e-mail at their workplace. The total number of people who filled in the online questionnaire is 159. This number suggests that the response rate is not high as the number of companies which were directly approached with the request to contribute to the research was 58. However, there is a possibility that more companies were reached as the snowball sampling technique was used and the company name was not asked to protect the anonymity of the respondents.

The average age of the respondents is 30, with the range from 19 to 64. Within the sample there are 66% women and 33% men. Most of the respondents are full time employees and only 8% stated that they are working either part-time or "other", which might be flexible working hours or self-employment. 44% of individuals have been employed by their current employer for a period of 1-3 years, 17% have not been working in their current working place for more than one year and 16% have been working longer than 9 years for their current employer. The average number of individuals to whom a respondent has to report his work is 2, with a

range from 0 to 20. Meanwhile, the sample average of how many people a respondent supervises is slightly higher – 3. The number of supervised persons varies from 0 to 60. Within the sample 28% of respondents earn 1201-2000 LTL (351-580 EUR) and 31% earn 2001 – 3000 LTL (581-870 EUR) of monthly income after taxes. Only 2% of individuals earn 10 001 LTL (2901 EUR) and more each month. This implies that the sample is skewed towards the lower amounts of earnings. The largest groups of respondents are working in the financial sector (23%) and in the telecommunication services sector (20%). Descriptive statistics tables for variables from the third part of the questionnaire and other variables used in the logistic regression can be found in appendix D.

The numbers of hours each individual spends using Internet and e-mail at their workplace for work and non-work related purposes per day were collected. An average respondent spends around 3 to 5 hours using Internet and e-mail at his/her workplace during a day. From that time he/she spends around 1 hour using the Internet and e-mail for personal purposes. Only 9 out of 159 respondents stated that they do not use the Internet or e-mail for personal reasons at the workplace at all. The distribution of individuals into groups can be seen in table 1 for Internet and e-mail usage at work and in table 2 for Internet and e-mail usage at work for personal purposes.

Time spent using the Internet and e-mail at work	*N*	*Percentage*
Less than 1 hour	18	11%
1 – 3 hours	46	29%
3 – 5 hours	31	20%
5 – 7 hours	28	18%
More than 7 hours	35	22%

Table 1: Time spent using the Internet and e-mail at work. Source: compiled by author.

Time spent using the Internet and e-mail for personal reasons	*N*	*Percentage*
Less than 1 hour	107	67%
1 – 2 hours	31	20%
2 – 3 hours	7	4%
3 – 4 hours	3	2%
More than 4 hours	2	1%
Do not use at all	9	6%

Table 2: Time spent using the Internet and e-mail at work for personal reasons. Source: compiled by author.

Additionally, the amount of time spent using the Internet and e-mail at home by respondents was asked. Only 6% of the whole sample stated that they do not have Internet connection at home. On average, employees tend to spent around two hours per day using the Internet and e-mail at home. 67 out of 150 respondents who have Internet connection at home stated that they on average use the Internet and e-mail for less than one hour a day. 63 respondents stated that they use the Internet and e-mail at home for 1-3 hours per day. For a more detailed distribution of respondents' Internet and e-mail usage at home see appendix D.

The percentage of employees who stated that their company has an Internet and e-mail usage policy was only 39% (see table 3) compared to 82.6% in USA and 62% in Australia. 34% said that their company does not have such a policy and the remaining respondents did not know whether there is such a policy at their company or not. In addition to this, 22 out of 62 respondents who are working in companies which have an Internet and e-mail usage policy stated that they follow guidelines voluntary, 24 are forced to follow the policy as the company is using additional software and only 4 do not follow the rules at all. When asked about the additional software used by the company 30% of the respondents answered that their company is filtering incoming and outgoing information from their computers and 51% stated that their company is blocking access to some functions or applications of the Internet and e-mail.

	Internet and e-mail policy		Internet and e-mail filtering software		Internet and e-mail blocking	
Answers	*N*	*Percentage*	*N*	*Percentage*	*N*	*Percentage*
Yes	62	39%	48	30%	81	51%
No	54	34%	42	26%	55	35%
Do not know	43	27%	69	44%	23	14%

Table 3: Employees' knowledge about Internet and e-mail surveillance practices in Lithuanian companies. Source: compiled by author.

4.2. Regression analysis

To answer the first part of the research question regression analyses are used. The first attempt is to find the main factors which influence the decision of the employee whether to use the Internet and e-mail connection for personal reasons at the workplace or not. The binary dependent variable was constructed as follows: 0 stands for less than one hour spent using the Internet or e-mail at work for personal reasons and 1 for more frequent usage. Independent variables which were used in the regression are age, gender, occupation, period of working at the

company, variables defining responsibility level ("how many persons the respondent supervises" and "to how many persons the respondent reports his/her work"), income level, sector, time spent using the Internet and e-mail at home and whether or not the company has an Internet and e-mail usage policy, filtering software and software blocking Internet applications.

The backward Wald logistic regression method is used with the probability of stepwise removal being 0.1. The regression completed 10 steps until all variables in the regression were significantly influencing the probability of a respondent using the Internet and e-mail at work for personal reasons. In the 10^{th} regression there are only three variables out of the twelve which were initially included into the regression with the significance level being lower than 10%. These variables are age, the number of people supervised by the respondent and knowledge about existing Internet and e-mail filtering software in the company. Coefficients and significance levels of the final regression can be found in appendix E. Furthermore, the table with Hosmer and Lemeshow test results is also included in appendix E. The Hosmer and Lemeshow test shows how well variables predict the dependent variable. If the significance of the goodness-of-fit test is greater than 0.5 then the values predicted by the model are not significantly different from real population values (Garson, 2009). The significance level of the 10^{th} regression is 0.744 which is higher than 0.5. Thus, the model is appropriate for predicting observed values.

Results of the regression show that usage of the Internet and e-mail at the workplace for non-work related purposes can be predicted only by the age of a respondent, the respondent's knowledge about existing filtering software and the number of persons a respondent supervises. The coefficient exp(b) in the table provided in appendix E gives the odds ratio for the binary dependent being equal to one. In this case, the reference value of the dependent variable is low Internet and e-mail usage at the workplace for personal reasons and the predicted value is high usage. Thus, the odds of high usage of the Internet and e-mail for personal reasons compared to low usage are reduced by a factor of 0.939 by each additional year of age for a person. For example, a 30 year old person is 0.730 times (0.939^5) as likely to use the Internet and e-mail for personal reasons more than one hour per day as a 25 year old person, all other characteristics held constant. Despite the fact that the age variable is statistically significant, it does not have a lot of influence to the change of a probability of using the Internet and e-mail for non-work related purposes more frequently.

The knowledge about filtering software used by the company has a significant impact on the probability of Internet and e-mail usage at work for personal reasons. Not knowing whether or not the employer is filtering incoming and outgoing information from the employees' computer decreases odds that the employee will use the Internet and e-mail for personal purposes more frequently by a factor of 0.281 compared to a person who knows about the existence of filtering software, other variables held constant. The increase in the probabilities is both statistically and economically significant.

The last significant variable in the logistic regression is the number of people supervised by the respondent. By each additional person supervised the odds that the respondent will use the Internet and e-mail for personal reasons more than one hour a day decreases by a factor of 0.812. The p-value of the coefficient is 0.044 implying statistical significance at a 5% level.

An analysis of each step of the backward Wald logistic regression showed that there are no other significant variables which could be considered as important factors influencing Internet and e-mail usage at the workplace for non-work related purposes. The final step of the regression does not change even if requirements for the inclusion or drop out of variables are relaxed.

The logistic regression analysis with the backward Wald method revealed that there are only three main factors which can help to explain the time spent using the Internet and e-mail at the workplace for personal reasons. The H1(a): "key determinants influencing the decision to abuse the Internet and e-mail at work are age, responsibility level and sector of the company", is only partially accepted as the sector of the company and the number of persons whom the respondents should report its work to were revealed to have no influence in predicting the time spent using the Internet and e-mail for personal purposes at work. The other two variables from the hypothesis, age and the number of persons supervised by the respondent, which partially defines the responsibility level, appeared to be significant factors, thus the hypothesis can be only partially accepted. Other hypotheses based on the first part of the research question will be answered with the help of frequency tests and one sample t-tests.

4.3. Frequency tests

Frequency tests are performed in order to see what the most frequently used Internet applications are, what the most common reasons for Internet abuse at work are and, finally, what the most desired ways of monitoring are.

Frequency tests for the types of Internet and e-mail applications used by employees show that 86% of all respondents stated that they check their work e-mail constantly. 60% of respondents marked that they check their personal e-mail account on a daily basis while being at work. 46% of them check e-mail more than once a day. Checking personal e-mail accounts is one of the most common activities done by employees who use the Internet and e-mail at the workplace for non-work related purposes. Another favorite activity by employees is reading news portals. Only 11% of respondents stated that they do not read news portals at their workplace while the rest of the sample follows the news at least once in a few days.

To see whether the difference in frequencies between e-mail usage, reading news portals and other activities done by respondents is statistically significant a one sample t-test is performed by comparing means of the results. In the questionnaire, the number 5 was assigned for the constant usage of an application and number 1 for no usage of an application. Answers in between "constantly" and "never" were also coded using the same method. Means for usage of Internet applications can be seen in table 4.

Applications	*N*	*Mean*	*Median*	*Std. Dev.*
Work e-mail	159	4.83	5	0.493
Personal e-mail	158	3.06	3	1.341
News portals	159	2.89	3	1.059
Instant messages with colleagues	158	2.66	2	1.591
Personal instant messages	158	2.23	2	1.232
Social networking sites	159	2.21	2	1.322
Communication with colleagues via social sites	158	1.58	1	1.067
Personal communication via social sites	156	1.67	1	0.951
Blogging	159	1.11	1	0.421
Online shopping	158	1.32	1	0.611
Watching videos online	159	1.89	2	0.948
Playing online games	158	1.33	1	0.817
Online banking	158	2.45	2	1.109

Table 4: Descriptive statistics of Internet applications usage at work. Source: compiled by author.

As it can be seen from the table, the most common applications are personal e-mail accounts and news portals. T-test shows that the mean difference between personal e-mail and news portal usage is not statistically significant (p-value 0.120). When comparing the mean of news portal usage to usage of e-banking (the third most popular application of the Internet for personal reasons), the p-value of the t-test was 0.000, indicating that news portals were significantly more popular. The same is true for checking personal e-mail. Thus, it can be stated

that checking personal e-mails and reading news portals are the most common non-work related activities done by employees who have Internet and e-mail connection at their workplace. Additionally, the total amount of e-mails received and sent for work and personal reasons over a day were asked. The mean of e-mails sent per day per individual is 16. Three out of those 16 are sent for personal purposes. Meanwhile, the average of e-mails received is 25 and almost a third of them on average are personal. This implies, that employees who have Internet and e-mail connection at their workplace use e-mail application quite often not only for work related purposes but also for personal reasons. These tests and statistics support the H1(b) hypothesis that the most common applications used by employees at the workplace are personal e-mails and news portals.

The most common reason why employees use the Internet and e-mail at the workplace for personal reasons is for educational and self development purposes (see appendix D). 90 out of 160 respondents stated this as one of the reasons why he/she uses the Internet and e-mail at work. This is in line with the previous finding that visiting news portals is one of the two most popular Internet applications to be used for personal reasons. The second most common explanation is “it helps me to relax”. Only 10% of respondents stated that the lack of tasks is one of the possible reasons why they abuse the Internet and e-mail at the workplace. Comparing means of the “do not have enough work to do” reason and more frequent reasons such as “for educational/self development purposes” or “that helps me to relax”, a one sample t-test showed that the mean of the lack of tasks explanation is significantly lower than means of other two (p-values are equal to 0.000 in both cases). Thus, the hypothesis H1(c): the most common reason for Internet and e-mail use for personal purposes is the lack of work given to accomplish, is rejected.

Frequency tests and one sample t-tests are also used to test the following hypotheses: H2(a) the most desired way of monitoring by employees is to participate in the creation of the monitoring system and H2(b) employees are willing to have sexual material filtered from their workplace. Testing these two hypotheses will help to answer the second part of the research question.

When respondents were asked to agree or disagree with the statements about Internet and e-mail surveillance, 41% (65 respondents) of the whole sample agreed that they would like to participate in the web filtering process with their employers (see figure 1). 30% would not like to help their employees to create filtering system and the rest of the sample is indifferent. A difference between a group of respondents who would like to participate in creation of filtering process and a group who would not is statistically significant with the p-value of one sample t-test being equal to 0.004. Thus, it can be stated that respondents on average are willing to participate in Internet and e-mail filtering process.

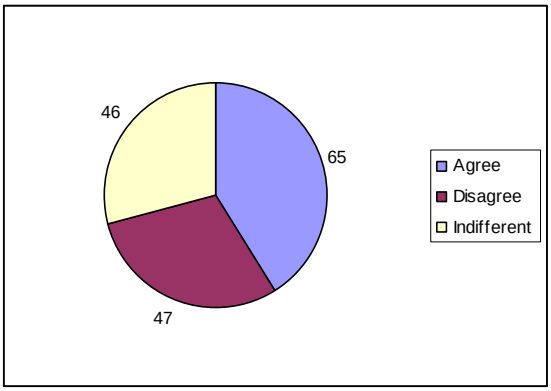

Figure 1: Survey results to the question: I would like to participate with my employer in the web filtering process. Source: compiled by author.

42% of respondents agreed that they would like to participate in Internet and e-mail blocking system creation with their employers at the workplace (see figure 2). 31% of the sample stated that they would not like to participate in this creation. A difference between these two groups is statistically significant (p-value of one sample t-test is equal to 0.007). This and previous finding regarding participation in Internet and e-mail filtering system creation proves H2(a) hypothesis that the most desired ways of monitoring by employees is participation in creating monitoring system.

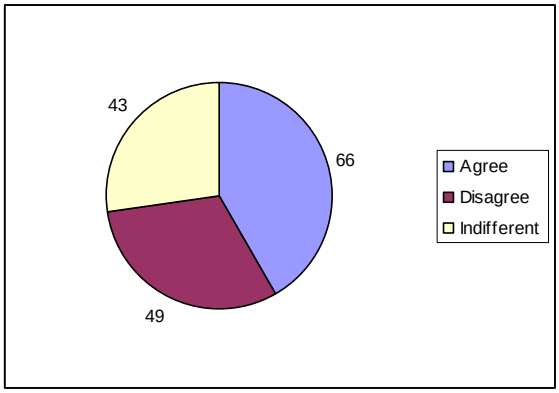

Figure 2: Survey results to the question: I would like to participate with my employer in the web sites and functions blocking system creation process. Source: compiled by author.

To prove the hypothesis H2(b) questions about sexual material at the workplace were asked. Respondents had to express their opinion with respect to a statement: workers should be allowed to access sexual material online at work. 90% of respondents disagreed with this statement, only 5% agreed with it and the rest of respondents were indifferent. Similar results were obtained in question where respondents were asked about discussions of sexual matters

using e-mail at work. 84% of respondents stated that these e-mails are not appropriate at the workplace and only 5% stated that it is acceptable for employees to discuss sexual matters at work. Respondents were also consisted when answering what should be allowed and what should be banned at the workplace. 90% of respondents did not state that porn and other adult oriented sites should be allowed at work. Additionally, 91% marked porn and other adult oriented sites as applications which should be banned. These percentages confirm the H2(b) hypothesis that employees are willing to have adult oriented material filtered from their working environment.

Frequency tests and one sample t-test proved that most frequently used Internet applications by employees at work are e-mail and news portals. Also, tests proved that employees are willing to participate in monitoring system creation as well as they are willing to have adult oriented material being filtered from their working environment. However, lack of tasks to accomplish did not appeared to be the most common reason to use the Internet and e-mail during working hours as it was hypothesized before. Instead of it, the most common reasons for Internet and e-mail abuse appeared to be educational, self development and for relaxation.

4.4. Mean comparison tests

To entirely answer the second part of the research question and to check the rest of the hypotheses mean comparison tests were performed. Factor variables for mean comparison tests are the number of hours per day spent using the Internet and e-mail for personal reasons at the workplace, the knowledge about existing Internet and e-mail usage policy at the workplace, the knowledge about existing filtering software used by the company, the knowledge about existing Internet and e-mail blocking software, and gender. Each group is analyzed separately. The dependent variables represent the opinions of employees regarding Internet and e-mail surveillance and monitoring, for example, “I would like to participate in the creation of a website and functions blocking system with my employer”. The questions used as dependent variables have possible answers varying from 1 to 5 where 1 stands for “totally disagree” and 5 – “totally agree”.

For the first four factors analysis of variance (ANOVA) tests are used as more then two groups are compared with each other. The specification Scheffe for ANOVA test is used to compare those groups as the distribution of respondents between answers is not equal in any of dependent variables. For the gender factor an independent sample t-test is performed.

The first ANOVA test is performed using the variable of how many hours per day the respondent spends using the Internet and e-mail for personal reasons at work as the factor for group division. The test showed that there are no significant differences among the six groups regarding opinions about Internet and e-mail surveillance at work. Means of all nine opinion statements with which respondents were asked to agree or disagree were not significantly different among those groups. Thus, it can be stated that the time spent using the Internet and e-mail for personal reasons at the workplace does not have a direct impact on the acceptance of Internet and e-mail surveillance.

Another factor by which groups were divided for the test is the knowledge about an existing Internet and e-mail usage policy at the workplace. Dependent variables were the same nine opinion questions. The analysis showed that there are differences among groups in three out of nine cases. A table with ANOVA test results with questions where significant differences were observed can be found in appendix F. The ANOVA test showed that there are differences among groups regarding statements “I approve of my employer using filtering software to control access to certain websites at work”, “electronic monitoring at the workplace is a necessary tool”, and “free usage of the Internet and e-mail decreases productivity at the workplace”. For the first statement the difference appears between a group of respondents who knew about their company having an Internet and e-mail policy and a group of respondents who did not know about such a policy. The difference of means is 0.795 with the p-value of 0.009. Thus, people who know about the existence of the Internet and e-mail usage policy at the workplace had answered 0.795 point more positively on average about approval of Internet and e-mail filtering software than the group of respondents who did not know about the existence of the policy. Furthermore, the mean difference between the group of respondents who answered that their company has an Internet and e-mail policy and the group whose company did not have such policy for the statement “electronic monitoring at the workplace is a necessary tool” was 0.693 with the p-value equal to 0.014. Again, employees that are already accustomed to being monitored show higher acceptance of monitoring.

The last statement which had significant mean differences between groups was about the decrease of productivity when having free access to the Internet and e-mail at work. The mean difference between the group with existing Internet and e-mail usage policy and the group which did not know about such policy was 0.611 with a p-value of 0.036. This shows that on average

respondents who know about the Internet and e-mail usage policy at their workplace agree more often that free access to the Internet and e-mail decreases the productivity than those respondents who have no knowledge about the policy. In addition to that, people who answered that their company did not have an Internet and e-mail usage policy had agreed more often with the statement regarding the loss of productivity than the group of respondents who had no knowledge about the existence of the policy. The mean difference between those two groups is 0.630 with the p-value of 0.034.

ANOVA test results about differences between groups regarding the Internet and e-mail usage policy in these three statements about the acceptance of Internet and e-mail surveillance are in line with the predicted outcomes in hypothesis H2(c). Respondents who did not have an Internet and e-mail usage policy disagreed on the necessity of surveillance at the workplace more often than the ones who had the policy. Moreover, respondents who knew about the Internet and e-mail usage policy agreed on these three statements more often than employees who did not know about the policy. This suggests that Internet and email surveillance is implemented successfully in Lithuanian companies and does not cause employee resistance after implementation.

The third ANOVA test is performed using answers to the question about Internet and e-mail filtering software implemented in the respondent's company. Dependent variables are the same nine statements regarding the acceptance of Internet and e-mail surveillance at the workplace. The test showed that there are differences among groups only in three out of the nine questions. Test results for those three questions can be found in appendix G. The first significant mean difference appears in the statement "I approve of my employer using filtering software to control access to certain websites at work". The group of respondents, who have stated that their company is using Internet and e-mail filtering software, is more likely to approve of employers' usage of the filtering software than the rest of respondents. The mean difference between the group of employees whose companies use filtering software and the group of employees whose companies do not use filtering software is 0.786 with the p-value of 0.015. The difference between the first group and the group of employees who do not know about filtering software at their workplace is 0.682 (p-value 0.019).

Furthermore, the group of respondents who did not know about the existence of Internet and e-mail filtering software answered the question 'whether they would approve of usage of

filtering software at the workplace if they were informed about it' 0.539 points (p-value 0.04) lower than the group of employees who knew about filtering software. This finding supplements the prior finding by adding the importance of informing employees about the existing policy or software. When asked about the necessity of electronic monitoring at the workplace employees who knew about existing filtering software were 0.922 points (p-value 0.003) more willing to agree with the statement than employees who did not have filtering software implemented in their workplace.

Findings from the third ANOVA test with the existence of an Internet and e-mail filtering policy as the factor for division into groups support the prior findings of the second ANOVA test. It also finds significant differences between groups with regard to the approval of filtering software usage and the necessity of electronic monitoring of the work Internet and e-mail.

The last ANOVA test is performed on the factor variable of Internet and e-mail application blocking at the workplace. Results show that there are no significant differences among groups regarding Internet and e-mail surveillance statements. Thus it can be concluded that the employees' experience of blocking of Internet and e-mail functions does not affect the acceptance or rejection of Internet and e-mail surveillance.

ANOVA tests revealed that there is only some variation among different groups of respondents with respect to Internet and e-mail surveillance statements from the questionnaire. Differences were discovered in the groups divided by questions of Internet and e-mail policy and Internet and e-mail filtering software at work. Main differences are found for the statement "Electronic monitoring at the workplace is a necessary tool". Findings are in line with the H2(c) hypothesis that individuals who are not monitored are against any kind of surveillance.

To test the hypothesis that females are more likely to accept monitoring than males independent samples t-test is performed. The factor variable is gender and dependent variables are the same nine opinion questions as in ANOVA tests. Mean differences are calculated by subtracting the average male answer from the female average. The test revealed that there are several significant differences between males and females regarding Internet and e-mail surveillance acceptance at the workplace. Levene's test for equality of variances in those questions showed that variances of answers cannot be assumed to be equal (see appendix H), thus t-test results are analyzed for non-equal variances.

Results show that males are more likely to approve of their employer using filtering software at work than females. The mean difference between groups is -0.36 and is statistically significant at the 10% significance level with p-value being equal to 0.073. Furthermore, males are on average more likely to approve of their employer using filtering software at work after informing them. An average answer of males on this statement was 4.33 while females' average was 4.03 (p-value for the mean difference is 0.09). From the results it can be concluded that the H2(d) hypothesis that women are more in favor of surveillance than men should be rejected. The results showed that men are more in favor of monitoring at the workplace than women, which is opposite than what was hypothesized.

Mean comparison tests proved that there are differences between employees regarding Internet and e-mail monitoring at the workplace. The main differences appeared to be between groups of people who know about the Internet and e-mail usage policy as well as have Internet and e-mail filtering software implemented at the workplace. Respondents who are not monitored are less in favor of surveillance than those who are already monitored at their workplace. Results also showed that women are less in favor of surveillance than man. Thus, the results suggested rejecting the hypothesis H2(d) which predicted opposite. The summary of the hypotheses of the study and empirical evidence for each of them can be found in appendix I.

5. Discussion

The obtained results show that Internet and e-mail abuse in Lithuania is an important issue as employees on average spend around one hour out eight working hours per day using Internet and e-mail for personal reasons. Factors which can influence employees' decision to misuse the Internet and e-mail at work are age, number of supervised individuals and knowledge about the existence of filtering software at work. It is of no surprise that age is a significant factor influencing the decision to use the Internet and e-mail for personal reasons because younger people are more acquainted with modern technologies. The number of people supervised influences the amount of time spent using Internet and e-mail at work directly by requiring more time from a respondent to perform managerial duties. In addition to this, employees might feel more responsible while supervising others and hence spend less time on using the Internet and e-mail for personal purposes in order to show a good example. This finding implies that employees who have Internet connection at their workplace and do not have

workers to supervise should be monitored more strictly to prevent their misuse of the Internet and e-mail. Thus, as it was offered by Davidson and Henderson (2000), the best monitoring systems should be tailor-made and implemented according to the tasks and responsibilities of employees.

Additionally, knowledge about Internet and e-mail filtering software implemented in the company reduces cyber-slacking by employees. Therefore, it is recommended for companies not only to filter information going through employees' computers at the workplace but also to inform workers about such activities. By doing so, companies would reduce Internet and e-mail abuse by employees. This would be achieved for several reasons. First of all, workers would have to adjust their Internet usage behavior towards behavior more suitable for the working environment. Secondly, they would not use the Internet and e-mail for personal activities, which they would not like to be discovered by third parties.

No significant relationship was found between the sector in which respondents' company is operating and the extent of Internet and e-mail misuse. This suggests that Internet and e-mail abuse does not depend on the specifics of an employee's work sector but rather on the position of the employee. This strengthens the finding that monitoring should be tailor-made according to tasks and positions of the employee.

The most frequently used applications for non-work related purposes are personal e-mail accounts and news portals. The rationale behind these applications being the most favorite is the role of them. As Whitty (2004) argues, e-mails usually serve as a mean of communication, just like the telephone. If the employee is allowed to use the telephone for personal calls, then one should be also allowed to use e-mail for the same purposes. Visiting news portals might be a positive activity for employees as it might broaden their understanding of relevant global issues and serve as a self-development tool. Furthermore, an educational and self development reason was one of the most favorite excuses for Internet and e-mail abuse at the workplace. However, uncontrollable usage of the Internet and e-mail even for self-development or educational purposes can lead to extensive cyber-slacking and losses for the company.

Therefore, the question is how employers should monitor their employees so that both sides would be satisfied with the working environment and the quality of the work performed. The survey revealed that it is not common for companies in Lithuania to have Internet and e-mail usage policy or any other tools of controlling employees, compared to Australian or American

companies. There is also a great percentage of employees who do not know whether or not their Internet and e-mail usage at work is being monitored or restricted by some policies or software. At this point, Lithuanian companies should implement better communication of corporate rules and policies to their employees as this would not only reduce productivity losses but also might increase the feeling of belongingness to a company. Additionally, results showed that employees are willing to participate in the creation of company policy and an Internet and e-mail filtering and blocking system. This finding shows that employers creating corporate policies and rules together with their employees would achieve better translation and communication of the policy, a better understanding of what is expected from employees, and most importantly would make it easier for the policy to be accepted by all employees.

Another finding related to Internet and e-mail surveillance at work is that employees agree that discussions of sexual content are not appropriate for the working environment. Most of respondents stated that pornography and other adults oriented material should not be allowed at the workplace. This implies that Lithuanian companies can safely adopt monitoring systems which would filter and block Internet and e-mail applications that contain sexual content. By adopting such systems companies would prevent loss of productivity as well as protect their employees' morale.

What is more, on average males are more likely to approve monitoring than females. Thus, for companies it would be beneficial to see what the distribution of employees between genders is and then create working groups based on this distribution. These working groups would help to create a monitoring system for companies which would suit their employees best and would be easier accepted.

It was proved by ANOVA tests that employees who are not monitored at their workplace are less in favor of any kind of surveillance which is intended to control Internet and e-mail usage at work. At the same time, those who are already monitored agree that monitoring is a necessary tool to provide employees with a competitive and productive working environment. Thus, it can be stated that Lithuanian companies which have already introduced monitoring systems into their daily business life have done it successfully. This implies that companies should not be fearful of starting to control their employees and losing their trust. After the implementation procedure is successfully finished workers will notice the improved working

environment as a result of it. Similar results were obtained by Whitty (2004) while investigating Australian employees' attitudes towards Internet usage and surveillance at work.

Internet and e-mail usage at the workplace is determined by the age of a respondent, the number of people one supervises and the knowledge of an existing Internet and e-mail filtering software in the workplace. The first two factors suggest that monitoring systems at the workplace should be tailor-made and correspond to employees' likelihood of using the Internet and e-mail at work for personal reasons. The third factor suggests that knowledge about Internet and e-mail filtering has a direct effect on the odds of Internet and e-mail misuse and that employers should have better communication of the existing policies in order to maintain a productive working environment. Furthermore, the results showed that surveillance is easier accepted by employees if it is targeted to filter sexual content material online. It is also more acceptable and works better if the system is created in cooperation with employees.

6. Conclusions

In his speech during the Login 2010 conference in Vilnius, a world known journalist and scientist Matthew Fraser (2010) emphasized the importance of efficient technology management for a modern company. He stated that newly recruited employees constitute a problem for many companies: young people, including newly graduated students from top universities have become "internet natives". Being "internet natives" they require much more freedom at the workplace, including the freedom to use the Internet and e-mail for work and personal purposes as they wish. Therefore, it is becoming crucial for companies' managers to understand the impact that uncontrolled Internet and e-mail usage might have on employees' behavior and productivity, the main reasons for possible Internet and e-mail misuse, and finally, the most appropriate ways to prevent or mitigate such abuse.

No research had previously been done to investigate the issues related to employees' perception of Internet and e-mail usage and surveillance in Lithuanian companies. Thus, an online survey was created in order to investigate this topic and answer the research question: **(1) What are the main factors that influence Lithuanian employees to use the Internet and e-mail for personal reason at the workplace and (2) what are the most desirable ways to monitor usage of the Internet and e-mail from the perspective of employees?**

The results show that from 159 Lithuanian employees from around 60 companies operating in different sectors only 3% do not use the Internet and e-mail at workplace for non-work related purposes. Meanwhile, 27% of employees misuse the Internet and e-mail for more than one hour a day. The main factors which influence the decision of Lithuanian employees to use the Internet and e-mail for personal reasons are age, the number of people supervised and knowledge about the existing filtering software at work. The most common applications used for non-work related reasons are personal e-mail accounts and news portals. Self-development and a need to relax were the two most frequent excuses for Internet and e-mail misuse.

For Lithuanian companies this means that everyday their employees waste around one hour of their working time for non-work related usage of the Internet and e-mail. Most of this time is spent checking personal e-mails, which usually are used as a mode of communication with colleagues, friends and relatives; and reading news portals, which might be seen as a self-development tool. However, uncontrollable usage of the Internet and e-mail even for employees' self-development or educational purposes might lead to significant losses for a company. Therefore, Internet and e-mail surveillance should be implemented. The best way to implement it is to involve employees in the creation and implementation of Internet and e-mail filtering and blocking software. By doing so, companies' managers would most likely decrease the cyber-slacking and preserve employees' satisfaction with the working environment. Results have also showed that most employees would like to have sexual material filtered from their workplace. This would prevent possible damage to employees' morale. Finally, the results of ANOVA test proved that employees are not against monitoring after it has already been implemented and they do not find it disturbing, therefore, companies should not be afraid to start controlling their employees and assuring the productive and professional working environment.

This study provides supplementary information to the already existing literature by discovering Lithuanian employees' attitudes towards Internet and e-mail usage and surveillance at the workplace. Being the first attempt to study employees' attitudes in the Baltic States the study leaves a wide range of possibilities for further research. One of them would be to narrow down the scope of the study and to analyze the perception towards Internet and e-mail usage by employees from one sector. For example, the financial sector can be chosen for a deeper analysis as most of financial services employees have access to the Internet and e-mail at the workplace. Another possibility for further analysis is to make a comparison of all three Baltic States in order

to observe which country has the best managed companies in terms of Internet and e-mail usage. Furthermore, one could base a study on a randomized sample by approaching random individuals by telephone or by other modes. Despite the fact that such sampling is expensive and time consuming, it would provide the researcher with a study which would have strong external validity and would allow making generalization on a broader level. The last suggestion would be to study Internet and e-mail usage and surveillance at the workplace from the employers' perspective. This would depict whether or not employers see a need to monitor their employees and what monitoring ways they are implementing.

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Appendices

Appendix A

Lithuanian companies listed on NASDAQ OMX Baltic Vilnius list sorted by sector

Sector	*Company*
Energy	Kauno energija
	Klaipėdos nafta
	Lietuvos dujos
	Lietuvos elektrinė
	Lietuvos energija
Industrials	City Service AB
	Kauno tiekimas
	Klaipėdos jūrų krovinių kompanija
	Lietuvos jūrų laivininkystė
	Limarko laivininkystės kompanija
	Panevėžio statybos trestas
	Pramprojektas
Consumer Discretionary	Apranga
	Dvarčionių keramika
	Grigiškės
	Klaipėdos baldai
	Lifosa
	Snaigė
	Utenos trikotažas
	Vilniaus baldai
Consumer Staples	Alita
	Anykščių vynas
	Gubernija
	Linas
	Pieno žvaigždės
	Rokiškio sūris

	Stumbras
	Vilkyškių pieninė
	Vilniaus degtinė
	Žemaitijos pienas
Health Care	Sanitas
Financials	Agrowill Group
	DnB NORD bankas
	Invalda
	Šiaulių bankas
	Snoras
	Ūkio bankas
Telecommunication Service	TEO LT
Utilities	Rytų skirtomieji tinklai
	VST

Source: NASDAQ OMX Baltic, (2009)

Appendix B

List of additionally approached companies

Sector	*Company*
Energy	Alternatyvi energija
	Klaipėdos energetika
	Leo LT
Consumer Staples	Kalnapilis
Health Care	Acorus
	Camellia Vaistinė
	Eurovaistinė
	Servier Pharma
Financials	KPMG
	VP Investment
Telecommunication Services	Affecto Lietuva
	Bite Group
	Omnitel
	Tele2
Utilities	EkoGroup
	Galuotas

Source: compiled by author.

Appendix C

Survey about Internet and email usage at the workplace

This survey is part of a Bachelor thesis done by a student from the Stockholm School of Economics in Riga. The aim of this thesis is to analyze the employees' attitudes towards Internet usage and surveillance at the workplace. The survey is absolutely anonymous and your answers will be used only for the Bachelor thesis. You will nedd about 10-15 min to fill in the questionnaire.

If you have any questions, please contact Agne Kostogriz (akostogriz@sseriga.edu.lv). Thank you for your time!

INTERNET AND E-MAIL USAGE AT WORK

Please select and **bold** only one possible answer for each of the following questions:

Do you have the Internet access at your workplace?	❑ Yes ❑ No
If "No", go to the section "General questions".	
How long are you using the Internet or email during a work day at the workplace?	❑ Less than 1 h ❑ 1-3 h ❑ 3-5 h ❑ 5-7 h ❑ More than 7 h
How long are you using the Internet or email during a work day at the workplace for personal reasons?	❑ Don't use at all ❑ Less than 1 h ❑ 1-2 h ❑ 2-3 h ❑ 3-4 h ❑ More than 4 h

*Please mark the most suitable option for each activity by putting an "**X**" in the corresponding box.*

How often do you use the following Internet applications at work?	***Frequency***				
	Constantly	Few times a day	Once a day	Every few days	Never
Check your work email					
Check your personal email					
Read the news in news portals (DELFI, vz.lt)					
Send instant messages to your colleagues at work by skype, msn messenger, etc.					

Send instant messages to friends or family by skype, msn messenger, etc.					
Visit social networking sites like MySpace or Facebook					
Communicate with your colleagues at work using social networking sites					
Communicate with friends or family using social networking sites					
Create or work on your personal online journal or blog					
Do online shopping					
Watch video on a video sharing site like YouTube					
Play online games					
Do online banking for private purposes					
Other (please specify) ……					

Insert the **number** for the following questions:

How many e-mails in total do you receive on average work day?	_____
How many e-mails do you receive on average work day which are not related to your work?	_____
How many e-mails in total do you send on average work day?	_____
How many e-mails do you send on average work day which are not related to your work?	_____

Please select and **bold** only one possible answer for each of the following questions:

Do you have the Internet access at home?	❑ Yes	❑ No

How long on average are you using the Internet or email at home per day? (*Answer only if to the previous question you selected "Yes")*	❑ Less than 1 h ❑ 1-3 h ❑ 3-5 h ❑ 5-7 h ❑ More than 7 h

Please select and **bold** all possible answer for the following question:

What are your reasons for Internet and e-mail usage for non-work related material at the workplace?	❑ Do not have enough work to do ❑ Underpaid for amount of work I do ❑ Co-workers distract me ❑ Not enough evening or weekend time for it ❑ That helps me to relax during working day ❑ For educational/self development reasons ❑ Do not have the Internet at home ❑ The temptation to use the Internet or check e-mail is too high ❑ Other:_____

INTERNET AND E-MAIL SURVEILLANCE AT WORK

Please select and **bold** only one possible answer for each of the following questions:

Does your company have an Internet and email usage policy?	❑ Yes	❑ No	❑ Don't know
Do you follow the guidelines of the policy? (*Answer only if to the previous question you selected "Yes")*	❑ Yes, because of Internet access restrictions ❑ Yes, I follow them voluntarily ❑ Yes, I follow them voluntarily but only to a certain extent ❑ No		
Does your company filter the Internet and email?	❑ Yes	❑ No	❑ Don't know
Does your company block the access to certain Internet functions and sites?	❑ Yes	❑ No	❑ Don't know

Please select and **bold** all possible answer for the following question:

What in your opinion should be allowed at the workplace?	❑ Personal emails ❑ News portals (delfi.lt, vz.lt) ❑ Entertainment/Recreation sites – online games, social sites, video sharing sites ❑ Online banking ❑ Porn and other adult oriented sites ❑ Search engines (google.lt) ❑ Chat rooms and programs (skype, msn messenger) ❑ Everything ❑ Other:_____

What in your opinion should be banned at the workplace?	❑ Personal emails ❑ News portals (delfi.lt, vz.lt) ❑ Entertainment/Recreation sites – online games, social sites, video sharing sites ❑ Online banking ❑ Porn and other adult oriented sites ❑ Search engines (google.lt) ❑ Chat rooms and programs (skype, msn messenger) ❑ Nothing should be banned ❑ Other:_____
What in your opinion should be filtered out at the workplace?	❑ Viruses ❑ Spam ❑ Emails with advertisements ❑ Offensive (pornographic, racist, etc.) material ❑ Non-work related material ❑ Chat rooms and programs (skype, msn messenger) ❑ Entertainment/Recreation sites – online games, social sites, video sharing sites ❑ Other:_____
What kind of emails you would not like to receive:	❑ E-mails with jokes and pictures ❑ Chain e-mails ❑ Discount offers ❑ E-mails with advertisements ❑ E-mails with sexual content ❑ Other:_____
Have you ever sent/forwarded that kind of e-mails:	❑ Yes, e-mails with jokes and pictures ❑ Yes, chain e-mails ❑ Yes, discount offers ❑ Yes, e-mails with advertisements ❑ Yes, e-mails with sexual content ❑ No
What kind of information in your opinion should be allowed to be sent via e-mail at the workplace?	❑ E-mails with jokes and pictures ❑ Chain e-mails ❑ Discount offers ❑ E-mails with advertisements ❑ E-mails with sexual content ❑ E-mails with conversations with friends and family ❑ Meeting arrangements with friends and family ❑ Other:_____

Please select and **bold** only one possible answer for each of the following questions:

Do you think it is acceptable for employees to discuss sexual matters at work using their e-mail?	❑ Yes	❑ No	❑ Don't know

*Please mark the most suitable option for each activity by putting an "**X**" in the corresponding box.*

	Totally Agree		Indiffe-rent		Totally Disagree
	5	**4**	**3**	**2**	**1**
Free usage of the Internet and e-mail decreases the productivity at the workplace					
I approve of my employer using filtering software to control access to certain websites at work					
I approve of my employer using filtering software to control access to certain websites at work after informing me					
I would like to participate with my employer in the web filtering process					
I would like to participate with my employer in the web sites and functions blocking system creation process					
I am glad with my e-mail being monitored at work					
Electronic monitoring at the workplace is a necessary tool					
Workers should be allowed to access non-work material on the web at the workplace					
Workers should be allowed to access sexual material on the web at the workplace					

GENERAL QUESTIONS

Age:	_____
Gender:	❑ Female ❑ Male
Occupation:	❑ Working full time ❑ Working part time ❑ Intern ❑ Other:_____
How long have you been working in your current place of employment?	❑ Less than one year ❑ 1 – 3 years ❑ 3-6 years ❑ 6-9 years ❑ More than 9 years
To how many persons do you have to report your work results? (enter the number)	_____
How many persons have to report their work results to you? (enter the number)	_____

Your personal monthly income after taxes is:	❑ 0 - 600 LT ❑ 601 – 1200 LT ❑ 1201 – 2000 LT ❑ 2001 – 3000 LT ❑ 3001 – 5000 LT ❑ 5001 – 10 000 LT ❑ 10 001 - more
In which sector are you currently working?	❑ Energy ❑ Industrials ❑ Consumer Discretionary ❑ Consumer Staples ❑ Health Care ❑ Financials ❑ Telecommunication Services ❑ Utilities ❑ Public sector ❑ Other:_____
Thank you for your answers!	

Source: compiled by author.

Appendix D

Descriptive statistics

Variable	*Answers*	*N*	*Percentage*
Gender	Female	105	66%
	Male	52	33%
	Missing	2	1%
Occupation	Working full time	146	92%
	Working part time	8	5%
	Intern	0	0%
	Other	5	3%
	Missing	0	0%
Working time	Less than one year	27	17%
	1 – 3 years	70	44%
	3 – 6 years	31	20%
	6 – 9 years	4	3%
	More than 9 years	26	16%
	Missing	1	0%
Income	0 – 600 LT (0 – 174 EUR)	2	1%
	601 – 1200 LT (175 – 350 EUR)	17	11%
	1201 – 2000 LT (351 – 580 EUR)	45	28%
	2001 – 3000 LT (581 – 870 EUR)	50	32%
	3001 – 5000 LT (871 – 1450 EUR)	24	15%
	5001 – 10 000 LT (1451 – 2900 EUR)	13	8%

	10 001 – more (2901 – more)	3	2%
	Missing	5	3%
Sector	Energy	9	6%
	Industrials	19	12%
	Consumer Discretionary	13	8%
	Consumer Staples	5	3%
	Health Care	2	1%
	Financials	36	23%
	Telecommunication Services	31	20%
	Utilities	2	1%
	Public sector	21	13%
	Other	21	13%
	Missing	0	0%

Variable	*N*	*Min*	*Max*	*Mean*	*S.D.*
Age	157	19	64	30	9.553
Number of individuals to whom has to report (reports)	153	0	20	2	2.152
Number of individuals has to supervise (supervises)	150	0	60	3	6.736

Time spent using the Internet and e-mail at home	*N*	*Percentage*
Less than 1 hour	67	42%
1 – 3 hours	63	39%
3 – 5 hours	16	10%
5 – 7 hours	1	1%
More than 7 hours	3	2%
Don't have Internet connection	9	6%

Reason of Internet and e-mail abuse at work	*N*	*Percentages*
Do not have enough work to do	17	11%
Underpaid for amount of work I do	13	8%
Co-workers distract me	4	3%
Not enough evening or weekend time for it	28	18%
That helps me to relax during working day	66	42%
For educational/self development reasons	90	57%
Do not have the Internet at home	7	4%
The temptation to use the Internet or check e-mail is too high	36	23%

Note: The total percentage of answers in table "Reasons of Internet and e-mail abuse at work" is more than 100% as respondents were able to select more than one suitable answer.

Source: compiled by author.

Appendix E

Results of binary logistic regression

Cases	*N*	*Percentages*
Included in Analysis	146	92%
Missing Cases	13	8%
Total	159	100%

Hosmer and Lemeshow goodness-of-fit test:

Step	Chi-square	df	Sig.
1	7.916	8	0.442
2	4.699	8	0.789
3	4.202	8	0.838
4	4.083	8	0.850
5	4.280	8	0.831
6	1.400	8	0.994
7	6.617	8	0.578
8	8.302	8	0.405
9	9.207	8	0.325
10	5.125	8	0.744

Note: The regression explains variation in dependent variable by independent ones if Hosmer and Lemeshow test significance is higher than 0.5.

Binary logistic regression model:

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 10[a]	Filtering			6.648	2	0.036	
	Filtering(1)	-0.304	0.503	0.366	1	0.545	0.738
	Filtering(2)	-1.269	0.508	6.239	1	0.012	0.281
	Age	-0.063	0.035	3.214	1	0.073	0.939
	Supervises	-0.208	0.103	4.038	1	0.044	0.812
	Constant	0.355	1.032	0.119	1	0.731	1.427

a. Variable(s) entered on step 1: homeusage, policy, filtering, blocking, age, gender, occupation, workperiod, reports, supervises, income, sector.

b. Dependent variable is a binary variable where 1 is Internet and e-mail usage for more than one hour and 0 for Internet and e-mail usage for less than one hour.

c. Exp(B) shows odds of the event to occur.

Source: compiled by author using SPSS output.

Appendix F

ANOVA test results for factor variable *the Internet and e-mail usage policy*

Multiple Comparisons

Scheffe

Dependent Variable	(I) policy	(J) policy	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
I approve of my employer using filtering software to control access to certain websites at work	yes	no	0.357	0.236	0.321	-0.23	0.94
		Don't know	0.795*	0.255	0.009	0.17	1.42
	no	yes	-0.357	0.236	0.321	-0.94	0.23
		Don't know	0.439	0.261	0.248	-0.21	1.08
	Don't know	yes	-0.795*	0.255	0.009	-1.42	-0.17
		no	-0.439	0.261	0.248	-1.08	0.21
Electronic monitoring at the workplace is a necessary tool	yes	no	0.693*	0.234	0.014	0.11	1.27
		Don't know	0.490	0.250	0.150	-0.13	1.11
	no	yes	-0.693*	0.234	0.014	-1.27	-0.11
		Don't know	-0.203	0.257	0.733	-0.84	0.43
	Don't know	yes	-0.490	0.250	0.150	-1.11	0.13
		no	0.203	0.257	0.733	-0.43	0.84
Free usage of the Internet and e-mail decreases the productivity at the workplace	yes	no	-0.019	0.216	0.996	-0.55	0.52
		Don't know	0.611*	0.234	0.036	0.03	1.19
	no	yes	0.019	0.216	0.996	-0.52	0.55
		Don't know	0.630*	0.240	0.034	0.04	1.22
	Don't know	yes	-0.611*	0.234	0.036	-1.19	-0.03
		no	-0.630*	0.240	0.034	-1.22	-0.04

*. The mean difference is significant at the 0.05 level.

Source: compiled by author.

Appendix G

ANOVA test results for factor variable *Internet and e-mail filtering software*

Multiple Comparisons

Scheffe

Dependent Variable	(I) filtering	(J) filtering	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
I approve of my employer using filtering software to control access to certain websites at work	yes	no	0.786*	0.266	0.015	0.13	1.44
		Don't know	0.682*	0.240	0.019	0.09	1.27
	no	yes	-0.786*	0.266	0.015	-1.44	-0.13
		Don't know	-0.104	0.248	0.916	-0.72	0.51
	Don't know	yes	-0.682*	0.240	0.019	-1.27	-0.09
		no	0.104	0.248	0.916	-0.51	0.72
I approve of my employer using filtering software to control access to certain websites at work after informing me	yes	no	0.383	0.234	0.264	-0.19	0.96
		Don't know	0.539*	0.210	0.040	0.02	1.06
	no	yes	-0.383	0.234	0.264	-0.96	0.19
		Don't know	0.156	0.216	0.771	-0.38	0.69
	Don't know	yes	-0.539*	0.210	0.040	-1.06	-0.02
		no	-0.156	0.216	0.771	-0.69	0.38
Electronic monitoring at the workplace is a necessary tool	yes	no	0.922*	0.264	0.003	0.27	1.57
		Don't know	0.426	0.235	0.198	-0.16	1.01
	no	yes	-0.922*	0.264	0.003	-1.57	-0.27
		Don't know	-0.496	0.245	0.133	-1.10	0.11
	Don't know	yes	-0.426	0.235	0.198	-1.01	0.16
		no	0.496	0.245	0.133	-0.11	1.10

*. The mean difference is significant at the 0.05 level.

Source: compiled by author.

Appendix H

Independent samples t-test results for factor variable *Gender*

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
I approve of my employer using filtering software to control access to certain websites at work	Equal variances assumed	5,884	0,016	-1,674	154	0,096	-0,365	0,218	-0,797	0,066
	Equal variances not assumed			-1,808	125,342	0,073	-0,365	0,202	-0,765	0,035
I approve of my employer using filtering software to control access to certain websites at work after informing me	Equal variances assumed	5,386	0,022	-1,569	153	0,119	-0,298	0,190	-0,673	0,077
	Equal variances not assumed			-1,709	128,439	0,090	-0,298	0,174	-0,643	0,047

Note: * marks the value significant at the 0.05 level. ** marks the value significant at the 0.1 level. The independent sample test tests the mean differences in answers between genders. Levene's Test for Equalities of Variances show whether or not one can assume equal variances for answers. Depending on the test results, the significance of the mean difference between genders in answers of interest differs.

Source: compiled by author

Appendix I

Summary of hypotheses and empirical findings

Hypothesis	*Empirical prove*
H1:(a) Key determinants influencing the decision to abuse the Internet and e-mail at work are age, responsibility level and sector of the company	Partially rejected
H1:(b) The most common applications used by employees are personal e-mail and news portals.	Not rejected
H1:(c) The most common reason for Internet and e-mail use for personal purposes is the lack of work given to accomplish.	Rejected
H2:(a) The most desired way of monitoring by employees is to participate in the creation of the monitoring system.	Not rejected
H2:(b) Employees are willing to have sexual material filtered from their workplace.	Not rejected
H2:(c) Employees whose companies do not have Internet and e-mail usage policies are against any kind of monitoring.	Not rejected
H2:(d) Women are more in favor of surveillance than men.	Rejected

Source: compiled by author.