

Analysis of Labour Environment Factors Impacting the Productivity of Employees

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Abstract. The authors have researched an impact of the quality of labour environment on the productivity of employees. The most essential factors of labour environment, which significantly impact the productivity of employees in an enterprise, were identified and analysed in the research. They are as follows: social factors, factors of working conditions, labour intensity factors, and labour factors. After completing the research, the authors concluded that an imperfect labour environment in enterprises causes a substantial loss to employers, as it includes both wasted time of employees and material damage to fixed assets and lost working days due to illness of employees and obstacles to the production process, which impact the productivity of any enterprise.

Key words: labour environment, productivity, employee.

Introduction

More and more attention is being paid to the human factor in a labour environment in Europe and in the world. Labour environment, safety, human health, comfort, and efficiency at any workplace are improved by taking into consideration the physical and psychological abilities of individuals. The number of individuals suffering from stress and psychological violence at their workplace has increased in a modern labour environment. According to the information of the European Agency for Safety and Health at Work (Bilbao Agency), more than one of four employees in the European Union is subject to stress at their workplace. It is related to reducing the reputation of enterprises and losing working time at enterprises, which impacts their productivity and competitiveness at the labour market.

Employees whose work significantly impacts the performance efficiency of enterprises are one of the most important and often the most expensive resources for enterprises. Employees are the most complex and hard-to-understand resource of an enterprise, as there are a lot of subjective and objective conditions impacting their working efficiency.

Regarding labour productivity, specialists admit that it is hard to define this term in a precise way corresponding to all the areas of activity of enterprises, since productivity, in its essence, is a measure of efficiency. The labour efficiency of an enterprise is ensured by a well-planned strategy, a perfect labour environment and work organisation, a targeted and efficient use of resources, a solid and loyal team of employees, and effective internal communication (Lāmanens, K., Tominens, K., 2007).

Therefore, the following **hypothesis** is set forth: the productivity of employees at an enterprise is impacted by a set of labour environment factors.

The research aim is to investigate the most significant factors of labour environment, which impact the productivity of employees.

The factors of labour environment, which impact the productivity of employees, can be researched quantitatively and qualitatively. The paper presents a qualitative research.

The following **research tasks** are set forth to achieve the aim:

- 1) to identify and characterise the most significant factors of labour environment, which have a substantial impact on the productivity of employees;
- 2) to analyse the satisfaction of employees through factors determining the quality of labour environment.

The following research methods were used in the research: monographic, statistical, graphical, and logically constructive.

Latvian and foreign studies on the respective area as well as data of the Ministry of Welfare, Eurostat, and the State Labour Inspectorate were used in the research.

Results and discussion

Any labour environment creates working conditions for individuals, which play a significant role in performing social functions and ensuring the quality of life in relation to health. The quality of health of employees is impacted by physical functions - a feeling of comfort, a psychological status, and somatic feelings. The authors suggest classifying the factors shaping labour environment, which impact the productivity of employees, into four basic groups:

- social factors;
- factors of working conditions;
- labour intensity factors;
- labour factors.

The demographic situation is the most significant **social factor**, which is characterised by life expectancy and situation in the labour market that is related to it. According to a study by Krīgers (Krīgers P., 2007), males in Latvia live on average

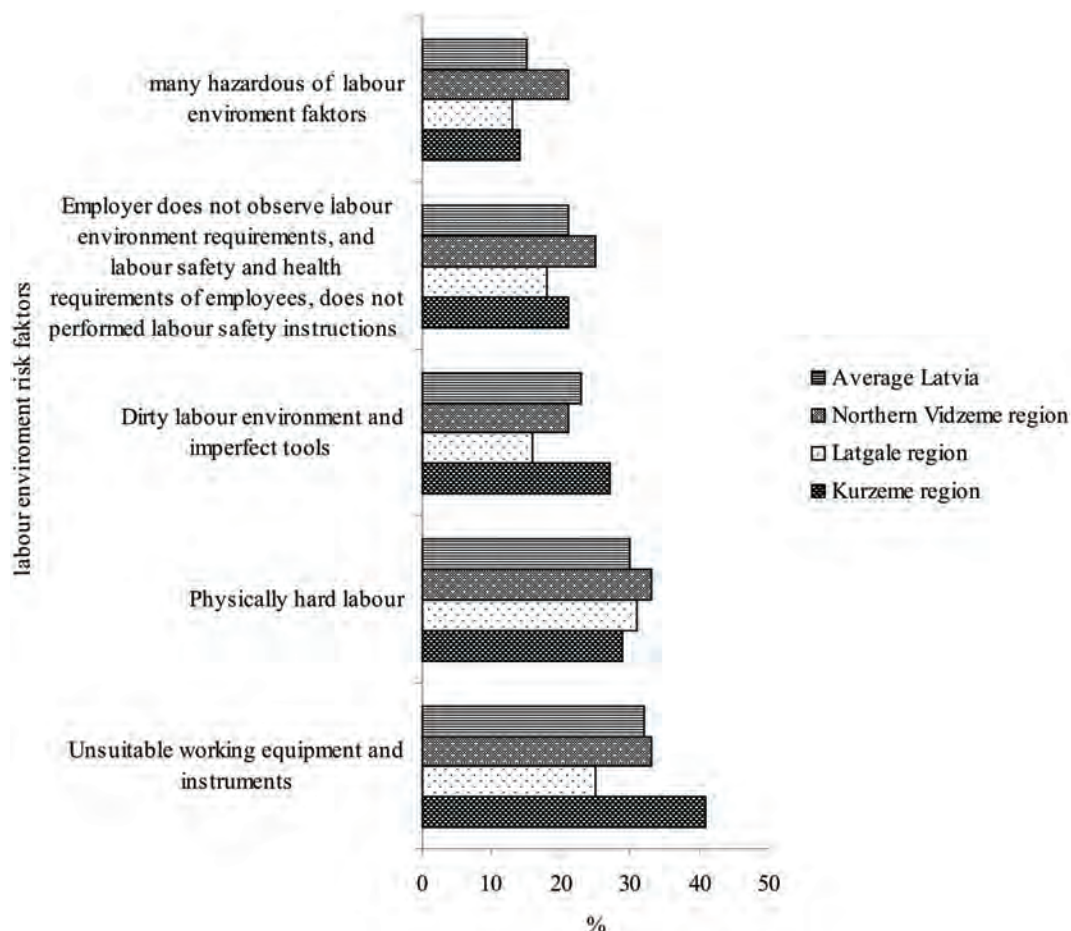
for 64.5 years, whereas in Europe – for 78 years on average; women in Latvia live for 75-76 years, while in Europe – for 80 years on average. Such a situation in Latvia is related to the low standard of living, an imperfect labour environment, and poor working conditions. There is a large inequality between genders both at work and outside it. This inequality has arisen mostly from gender segregation in the labour market, as a number of individuals of a particular gender decrease in several professions. The analysis of labour markets in the EU candidate countries, where the number of working women is greater, showed that the distribution of genders among categories of various professions is more balanced and there is smaller vertical segregation. It indicates that such a disbalance is not unavoidable (European Foundation for...2008). Two aspects have to be taken into consideration in relation to the ageing of individuals. First, it is a constraint of age, which is caused by the lack of balance between working conditions and labour intensity; it decreases with the increase in age. Second, a job might have to be quit due to physical and mental deterioration. A study of the European Foundation for the Improvement of Living and Working Conditions revealed alarming trends. Due to the fact that a deficit of young employees increases, employees of the medium age group (aged 35-45 years) admit that they perform hard physical jobs more and more often. Besides, due to the existence of criteria in selecting employees by age, pushing older employees out of several kinds of work is observed (night work, work having a final term, work with new technologies). Activities for reorganising labour environment are necessary to avoid premature physical and mental deterioration as well as to enable individuals to stay at their jobs (Eiropas dzīves un... 2008).

The most significant **factors of working conditions** (physical, chemical, and biological factors belong to this group) include a microclimate inside work premises, which might cause pathological changes in the organism of employees, either overheating the organism or cooling down it excessively. A burden on the heart and blood vessels rises on unfavourable microclimatic working conditions (Izraīlietis Ļ., Trahtenbergs I., 1978). Intensive noises and vibrations are one of the main unfavourable factors of labour environment, as an impact of noises can also cause the so-called after-effects that impact working capabilities very negatively. Noises also increase a number of errors at work and at the same time a number of industrial accidents. A disorder of hearing, which is caused by noises, is one of the most spread ceaseless occupational diseases, and around 120 million people suffer from it in the world (Eiropas dzīves un ... 2008).

According to a study conducted by the Ministry of Welfare, 45% of employees in the wood processing industry, 80.5% – in furniture production, 55.4% – in construction, 55.2% – in manufacturing, and 62.1% – in education are subject to noises at enterprises in regions of Latvia (LM pētījums, 2007).

Work intensity (ergonomic) factors include: physical efforts, a pose at work, work monotony, nervous tensions, a work rhythm etc. which significantly impact the productivity, working capabilities, and health of employees. Different individuals have different paces of working. Rhythm, sequence of works, regularity, and flexibility are very important to any pace of working, which are the prerequisites for high productivity. Any employee needs to learn to plan his/her working day, week, and month.

Labour factors include work stress, working capabilities of employees, fatigue, emotions, working conditions, architectonics and a design of work premises as well as psycho-social and organisational risk factors of labour environment. According to the authors, an employee's fatigue is a condition of the organism, which arises after a tense and durable work. It is characterised by a decrease in working capabilities as well as a decrease in the organism's ability to resist infections and other diseases. An employee's fatigue can be increased by a monotonous work, a lack of interest, an unfavourable emotional condition, working conditions, and unfavourable conditions of the surrounding environment. An individual's physiological indicators characterising tensions during performing different works are very much impacted by emotions. From the point of view of physiology and medicine, emotions have to be viewed as an individual's most important adaptation reaction enabling him/her, on the one hand, to overcome complex situations, while on the other hand, to better perceive everyday life. Joy, creative inspiration, public and private achievements, and successes help individuals overcome hardships and cope with complex tasks. Fears and resentments depress any individual, make him/her reluctant to any work and lazy, and decrease his/her working capabilities. Positive emotions increase an individual's working capabilities and help him/her gain success at work. Stress and the syndrome of burnout are also included into this group. Stress at work depends on working conditions and an employee's attitude to it. Stress situations require more attention at work, which does not correspond to an individual's physical and mental capabilities. Stress at work is strengthened by a lack of control over executable tasks, a lack of support of colleagues and conflicts at work, including conflicts with administrators. There is a large labour turnover, absences from work due to sickness are frequent, indicators of time spent on creative work and relations with their clients worsen at enterprises paying no attention to avoiding stress causes (Roja Ž., 2007, Darba vides riska..., 2001). The syndrome of burnout becomes apparent as a state of exhaustion of an individual's energy. Due to large workloads on conditions of inappropriate material and mental rewards and due to insecurity about tomorrow, individuals start feeling an emotional discomfort and are in continuous tension till they fall into despair or start protesting. Employees with low self-respect, workaholics, those needing



Source: made by the authors according to the Ministry of Welfare data

Figure 1. **Reasons for employee dissatisfaction with the labour environment and working conditions in enterprises of the regions of Latvia**

internal competition, those who are aggressive and impatient, those lacking attention to their own needs, and those being in physical and psychological isolation are more subject to the syndrome of burnout (Ancāne G., 2004).

The productivity of employees is impacted by working conditions (Darba apstākļi un ..., 2004) which include:

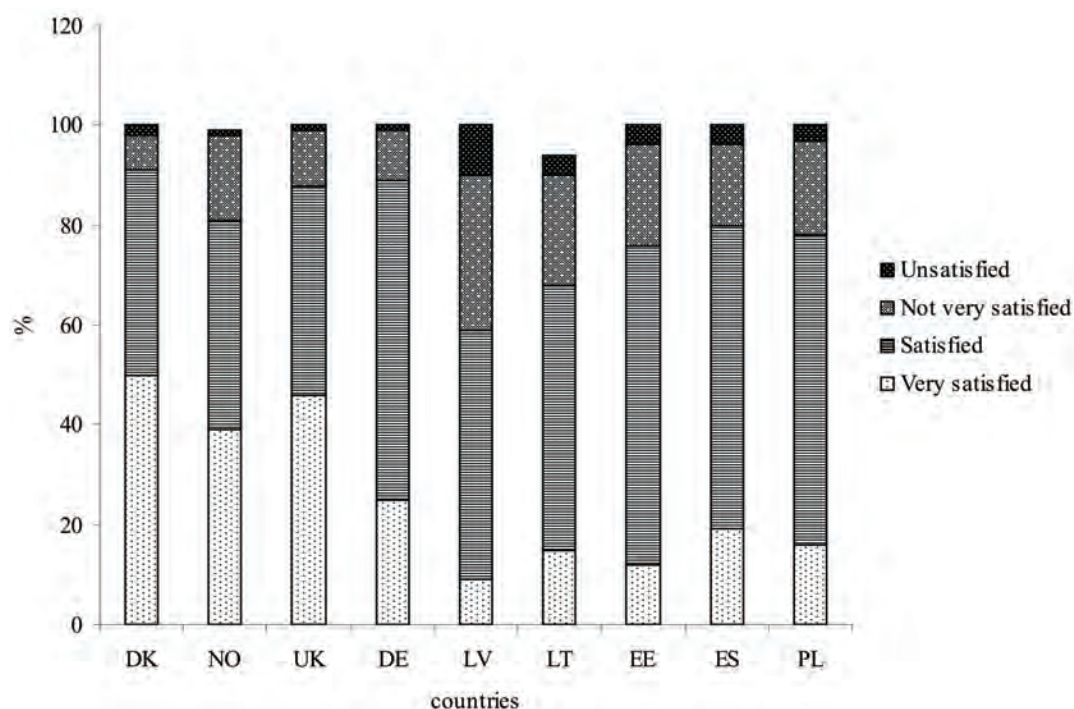
- labour environment which includes all material aspects forming the surrounding environment (conditions) in which any work is done: safety conditions, presence of chemical or biological contamination etc;
- requirements determined by the task of work: efforts, body's position, attention, monotony etc;
- work organisation which determines how the working process is split into several operations among particular employees, including the division of working hours, the pace of work execution, and mutual relations that emerge at workplaces;
- education of employees as a kind of necessary knowledge, a level of training of employees, a kind of work organisation, and working hours;

- work intensity is impacted by direct demand, work of colleagues, output targets, direct control of managers, and a speed of equipment automatic operation;
- satisfaction of employees with their job are ensured by rewards, career possibilities, a way of management, awards and acknowledgements, a type of work, communication, non-monetary benefits and privileges etc.

By analysing the satisfaction of employees with their labour environment and working conditions, it can be observed that most of the employees in enterprises in the regions of Latvia are rather satisfied. The number of employees that are not particularly satisfied does not exceed 20%. A stable job and good wage as well as social guarantees increase their satisfaction.

However, the dissatisfaction of employees in enterprises of the regions of Latvia is aided by the hazardous labour environment factors, physically hard work, and dirty labour environment.

As it can be seen in Figure 1, employees of Kurzeme region are not satisfied with the fact that their workplaces have many hazardous risk factors



Source: made by the authors according to the materials of the European Fund for Improvement of Life and Working Conditions (Eurostat, 2009)

Figure 2. **Employee satisfaction with jobs in the EU member states in 2008, %**

of the labour environment. Employees of enterprises in Latgale region and the Northern Vidzeme region are not satisfied with the physically hard work and the unsuitable environment for executing work. Therefore, one can conclude that the working conditions classified as hazardous lead employees to diseases or to a decrease in their working capabilities, which in turn impacts the productivity and competitiveness of any enterprise.

In general for the majority of European employees, their jobs seem to be a positive experience bringing satisfaction – more than 80% out of the 29980 surveyed employees believe they are satisfied with their working conditions and labour environment.

Figure 2 shows that only 9% of Latvian employees are very satisfied with their working conditions and labour environment. This indicator is below the average EU indicator which is 19%. On average, 4% of the EU respondents were not satisfied with their jobs, while in Latvia it was 10% (Eiropas dzīves un ..., 2008).

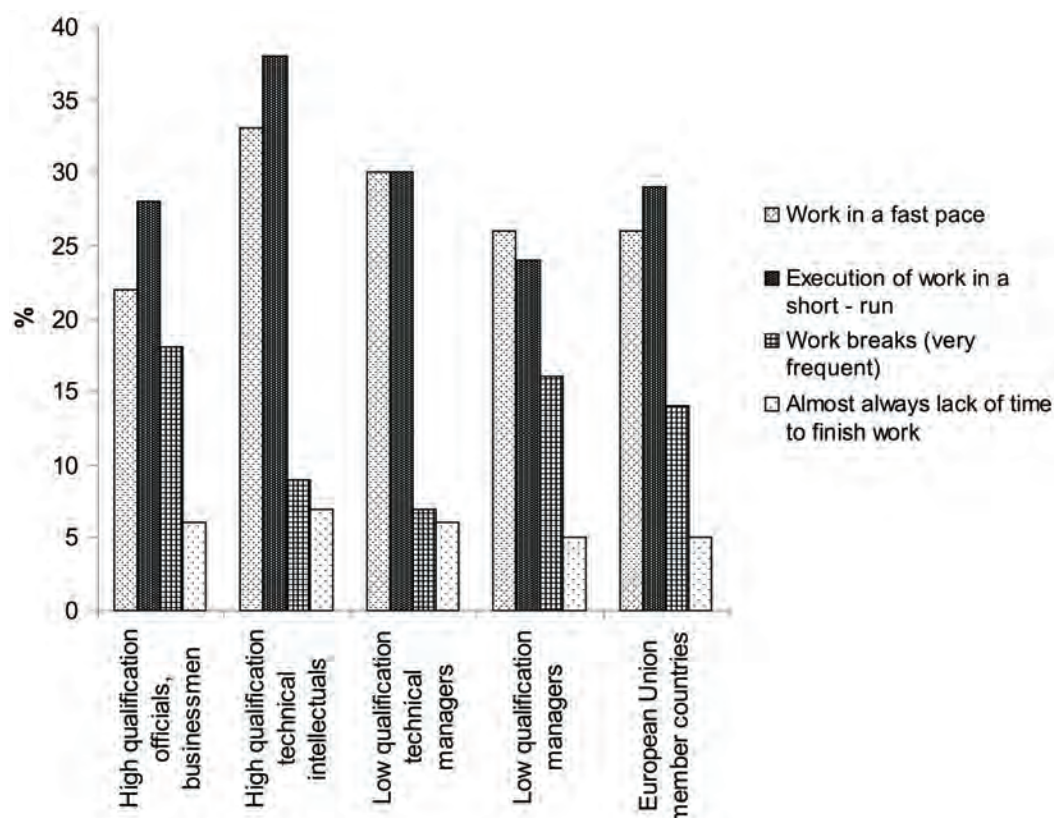
According to a study conducted by V. Kaļķis, Ž. Roja and other authors (Kaļķis V., 2002, Roja Ž., 2007., Джой – Меттью Д., 2006.), a greater satisfaction with jobs and labour environment quality is promoted by: an understanding of decent wages, greater independence and work control, higher intellectual requirements regarding a job without excessive work intensity, and career development possibilities. However, a lower level of satisfaction is related to long working hours, high work intensity, low work control, and being subject

to physical or psychological and social hazards which cause health disorders during the work process. Those employees who believe that their jobs influence health, and their health and safety is endangered at the workplace, are five times more unsatisfied with their jobs as compared with those who believe that their health is not influenced or endangered at the workplace.

A study conducted by the Ministry of Welfare on the satisfaction of employees with their working conditions and labour environment proved that the satisfaction is increased by a safe, stable job and a stable wage – 44% of 1841 respondents admitted it; an interesting, creative, dynamic, multiform job – 41%; social guarantees – 40%; a high wage – 38%; good personal relations with colleagues – 33%; good and safe working conditions, and a perfect labour environment – 17% (Darba apstākļi un..., 2007).

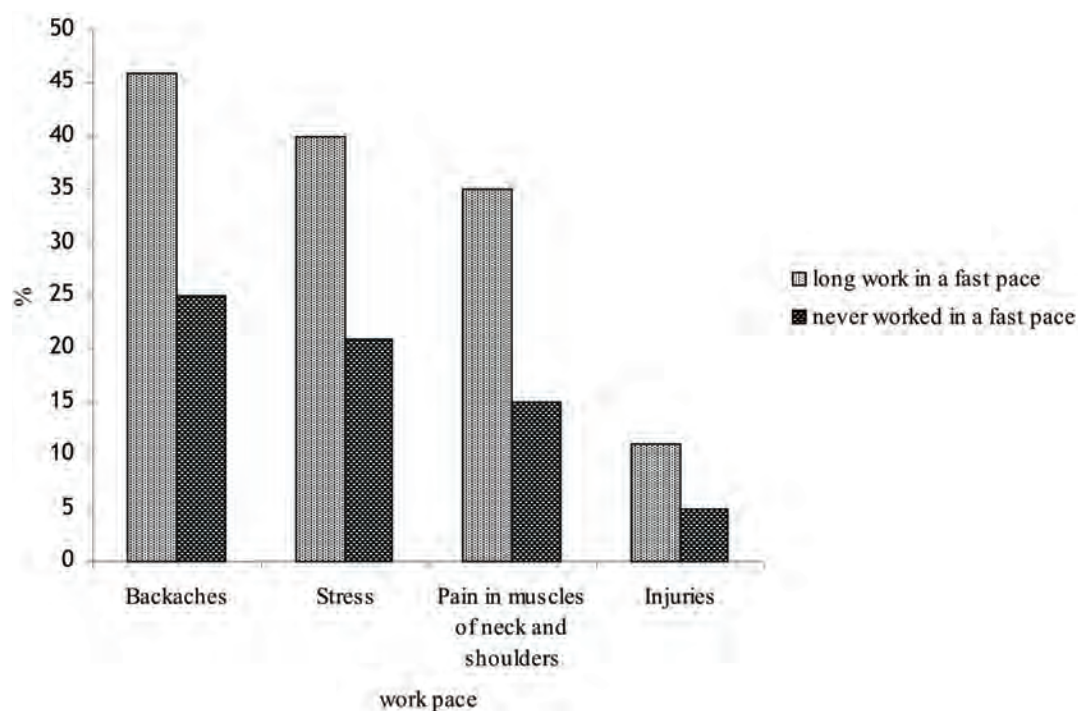
Work intensity as well, significantly impacts the productivity of enterprises. The authors of the paper believe that the higher is work intensity, the bigger risk exists for a decrease in productivity. Its impact is observed in all European Union countries, in all sectors of the economy as well as in all kinds of economic activity. Such intensification can be explained by a certain type of tolerance in relation to work burden, the nature of which has become much more complicated.

According to Figure 3, the highest work intensity is specific to high qualification employees of technical intelligentsia: 33% (29980 respondents) of these employees. Work intensity is impacted by direct



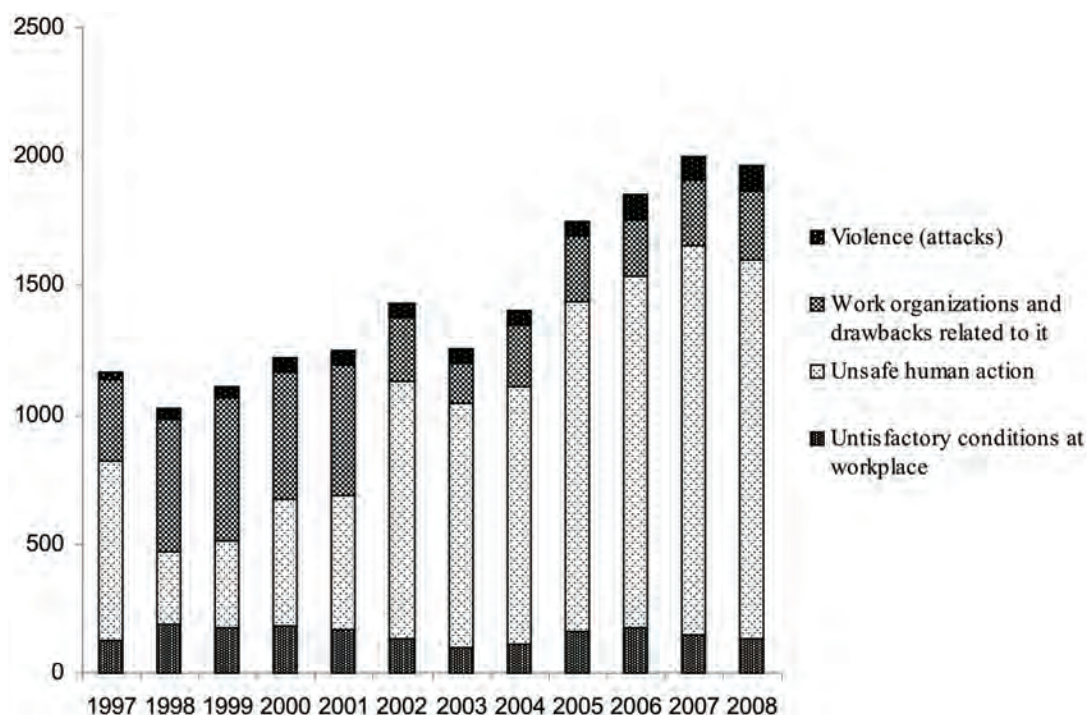
Source: made by the authors according to the materials of the European Fund for Improvement of Life and Working Conditions (Eurostat, 2009)

Figure 3. **Work intensity level in EU member countries in 2008**



Source: made by the authors according to the materials of the European Fund for Improvement of Life and Working Conditions (Eurostat, 2009)

Figure 4. **Health problems related to intensive work in the EU in 2008**



Source: author's studies according to the State Labour Inspectorate data

Figure 5. **Impacts of imperfect labour environment on industrial accidents in economically active enterprises in the regions of Latvia during 1997-2008**

demand, work of colleagues, output targets, direct control of managers, and a speed of equipment automatic operation. Those employees whose work intensity depends on the speed of equipment automatic operation or output targets face physical health problems more frequently. These employees perceive their work as more intensive and strained, and their level of independence is lower. On the contrary, those employees whose work intensity is set by direct requirements of customers have higher rates of psychological health.

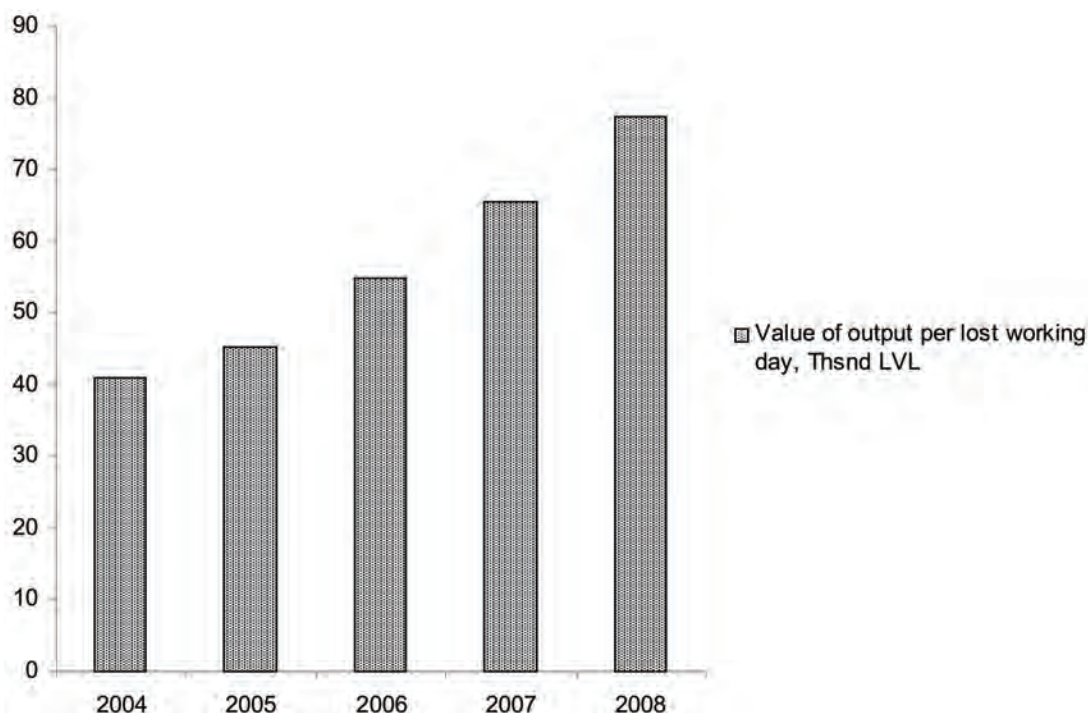
Work intensification is directly related to causing stress, disorders of muscles and skeleton, psychological attacks and violence at workplaces, which is a logical consequence of the increasing lack of time, thus negatively impacting not only the health of employees, but also their productivity. According to the EU study data, employees, at their workplaces, mostly suffer from muscle and skeleton diseases, especially the lower part of spine, and from health disorders caused by psychological stress. These diseases are usually related to being in a forced working pose (work with a computer) for a long time and to performing a maximum workload. It often causes the absence of employees at work or even the loss of their working capabilities.

According to Figure 4, after working intensively for a long time, 46% of the respondents have gained backaches; diseases caused by stress have increased among 40% of the respondents. It becomes more difficult for employees to cope with the above mentioned problems. In general, employees are subject to violence or threats of violence in the Northern Europe – a rate that is higher than the EU

average rate (6%) is observed in the Netherlands (10%), the United Kingdom (9%), Ireland (8%), and Latvia (4%) (European Fund for Improvement of Life and Working Conditions, 2008).

Enterprises having an imperfect labour environment and poor working conditions, industrial accidents used to occur more frequently, which in turn impact the productivity and competitiveness of enterprises. According to data of the State Labour Inspectorate, one can see that the work organisation, unsatisfactory working conditions, and unsafe actions of employees at enterprises still significantly impact the number of industrial accidents. It is very possible that during the economic crisis their impacts will increase because many employers try to save funds at the expense of work safety.

Figure 5 shows that a very large increase in unsafe actions of employees has been observed since 2003, and it has not decreased also in 2008 when the economic situation worsened in the country. However, a decrease in the impact of work organisation was observed in 2003, but since 2004 this cause has steadily increased, thus the largest part of employees has a low self-appraisal and a sense of guilt in their work teams. All the respondents report having limited working hours and short deadlines for executing their tasks at work. It implies that there are big problems in their work organisation and lack of human resources. The employees suffer from uncertainty and a lack of information regarding changes in their jobs, especially from radical changes. The employees pay insufficient attention to physical activities related to relaxing exercises during breaks at work and to physical activities at all. Therefore, it may be



Source: calculated by the author according to the State Labour Inspectorate data

Figure 6. Value of output per lost working day in Latvian enterprises in 2004-2008, thou. LVL

concluded that many employers do not understand how a labour environment impacts the productivity and competitiveness of their enterprises.

According to a study conducted in 2007 by the European Agency for Safety and Health at Work, in the EU countries health disorders related to work cause a loss of 2.6-3.8% of the EU gross domestic product and a loss of 600 million working days, which amounts to at least EUR 20 billion a year. Entrepreneurs prefer a long-term use of their capital, however, not all of them remember that the most important capital of their enterprises is their employees and in order to ensure the working capabilities and productivity of employees, funds have to be invested in them.

According to data of the State Labour Inspectorate, it may be concluded that 327492 working days are lost, fixed assets, buildings, and constructions worth LVL 1.3 million are damaged, and, based on sick-leave certificates, LVL 1.3 million are paid to the victims in an eight year period in the result of industrial accidents. The largest numbers of working days are lost in 2005 and 2008, respectively 15.9% and 14.4% of total loss of working days.

The authors have analysed values of output for every lost working day in more detail.

Figure 6 shows that one lost working day causes a quite large loss to an employer, as no quality products are produced. The value of non-produced products per every lost working day rises year by year. If the average number of lost working days a year increases by 1147 days, one can conclude that a total loss rises by LVL 3107.6 thousand if estimated according to the daily loss in 2008.

Conclusions

1. There are several groups of labour environment factors, which impact the productivity of employees and the performance of enterprises. Therefore, environment employers have to take into consideration that the health of employees is maintained in their labour by introducing tough requirements for labour environment that is safe and harmless to human health. Owing to it, enterprises can increase the motivation and productivity of employees.
2. The level of employee satisfaction with the job and labour environment is low in Latvia. The main reasons for it both in the whole country and in the regions are physically hard work and inappropriate work equipment and instruments.
3. The satisfaction of employees with their job can be increased by good working conditions, social guarantees, medium work intensity, and career possibilities.
4. An imperfect labour environment in enterprises causes a substantial loss to employers, as it includes both wasted time of employees and material damage to fixed assets and lost working days due to illness of employees and obstacles to the production process, which impact the productivity of any enterprise.

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