

## **Level of working conditions in relation to employees' productivity on the basis of sawmills in Opole region**

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**Abstract:** *Level of working conditions in relation to employees' productivity on the basis of sawmills in Opole region.* In the article, the problem of working conditions in relation to the workers' efficiency was broached. On the basis of the subject literature a short profile of working conditions and their connection with the workers' efficiency was performed. Taking into account the data presented by Eurostat, the level of efficiency among workers in Poland was presented. The main aim of the article was to show the influence of the changes in working conditions over the employees' efficiency based on the surveys conducted in particular companies dealing with the process of woodworking in the area of Opole Silesia. Broached issues should be important for every company, which is willing to be competitive on the local and national market. Despite their meaning, it is important to notice that problems connected with working conditions in relation to workers' efficiency are issues, which are rarely broached in the literature of the subject.

*Keywords:* working conditions, efficiency (workload), sawmilling industry

### INTRODUCTION

Working conditions are important issues in every organization regardless of its size, specifics or location. Depending on their level, work gives the employee a sense of satisfaction or causes fatigue, and in many cases even discouragement. At the same inadequate working conditions (including excessive noise, poor lighting, poor work organization) have a negative impact on the functioning of the employee. Harmful factors that impact the human body in the workplace causes many negative effects. Among them the most frequent are: stress, overwork, fatigue, reduced employee productivity, accidents at work place and occupational diseases. Organizations, which value high-performance of workload, should therefore remember that it could only be provided by employees who on the one hand, have opportunities to participate in professional development, and on the other hand, are performing duties in decent working conditions that do not threaten their health and lives.

Despite their importance, it is noteworthy that the issue of working conditions in relation to the productivity of employees is rarely discussed in the literature.

This article aims to show the impact of working conditions on the involvement and performance of employees based on surveys and statistical supplementary data obtained in selected wood processing companies in the region of Opole Silesia.

### WORKING CONDITIONS IN THE ASPECT OF EMPLOYEE PRODUCTIVITY

Labor productivity is an important component of the labor market. This is due to the fact that it belongs to one of the most important measures determining level of economic development and competitiveness. Usually, it can be investigated in the following categories: individual (identified with performance of a particular employee), average (for the average yield obtained by all employees of an organization or a particular sector of the economy) and social (defined as GDP produced by one employee in the national economy).

The level of labor productivity is conditioned by many factors. On the one hand, there are factors, which are provided by the employer such as working conditions in the broader sense – organizational, technical, economic and social. On the other hand, individual characteristics of the employee (e.g. the ability to solve conflicts) or information on which one can determine the level of manufacturing and human capital in the economy. Which of them will be considered, and to what extent, is merely the choice for determining the area of performance. However, it seems that the fundamental meaning, regardless of the choice, perform working conditions, because their impact on the employee is versatile. Obviously, the degree of impact is varied depending on working conditions level. The lower it is, the more noticeable the side effects are experienced by the employees. Improper working conditions usually lead to physical and mental exhaustion and somatic ailment. In the situation where the employee is exposed to them for a long period, they can lead, with time, to changes in the health status (e.g. reducing immunity and related infectious diseases, high blood pressure, increased risk of cancer). Frequently, in organizations characterized by a low level of working conditions, the increase in the number of work accidents and thus absence in work can be noticed. At the same time, these circumstances lead to changes in employees' behavior. They are mostly reflected by the lack of full commitment, lack of identify with the organization, which often affect the quality of production and could cause conflicts.

For any organization, regardless of the differences between them (e.g. size, and management style) the employee dissatisfied with working conditions is less efficient. Therefore, it can be seen that the correlations between working conditions and workload are important even though their impact is indirect because it arises from the effects of low level of working conditions.

#### CHARACTERIZATION OF LABOR PRODUCTIVITY IN POLAND

On the basis of recent data presented by Eurostat, the level of labor productivity in Poland, despite the global economic crisis, has been increasing at a rate of over 3.2% per year since 2010. What is interesting is the fact that the level of labor productivity is higher than in previous years when Polish economy was in a much better position and the highest since the accession to the European Union. The fact remains that in the previous year, the level of labor productivity achieved in Polish organizations were among the highest of all EU countries.

According to the experts, a significant impact on labor productivity growth in Poland in the past two years, had the implementation of programs aiming to improve working conditions in many companies, and in particular, the organizational and technical aspects of it (through the implementation of new technologies and improvement of the work organization). In addition, during this period, it was reported that workers had been participating in professional training, primarily those, raising professional qualifications. On this basis, it can be concluded that Polish organizations, in the times of economic downturn, have assessed that by promoting labor productivity, they will have a chance to strengthen its position on the market or at least survive.

It should be borne in mind that the upward trend in labor productivity varies depending on the profile of each company, and many other factors (e.g. size of the organization, approach to employee, financial capacity). A large group of organizations is characterized by low productivity growth or a constant one, and there are companies, which suffer the decline of labor productivity.

## WORKING CONDITIONS VERSUS EMPLOYEES' PRODUCTIVITY IN SELECTED SAWMILLS

The aim of this study was to verify adopted assumptions, based on the literature, regarding the impact of working conditions on employee productivity. The assumption was to perform comparative analysis of two periods. The first analysis used for the comparison was made in July 2007; it focuses on years 2005-2006. At the time of survey, the examined companies had already operated on the market for an average of 5 years. The same study was repeated in July 2012. Ten minor wood processing plants located in the Opole region were included in the study. All companies covered in the survey have been operating on the market from 10 to 14 years. Large groups of customers are their regular clients, both local and national. The average number of employees in the analyzed period, apart from company number 5, did not significantly change. It should be noted that in six companies of out ten a number of employees increased.

**Table 1.** An average number of employees in companies in the years 2005-2006 and 2010-2011

| Specification | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---------------|----|----|----|----|----|----|----|----|----|-----|
| 2005-2006     | 40 | 47 | 24 | 21 | 35 | 44 | 17 | 35 | 23 | 12  |
| 2010-2011     | 42 | 45 | 28 | 25 | 20 | 48 | 19 | 30 | 24 | 12  |

Source: self-study

Selecting sawmilling industry was deliberate due to its specific nature, location, often poor financial condition and relatively important role it plays in the national economy. Its particular importance is mainly because it functions mainly due to natural, yet national renewable raw materials, as evidenced by current data from the Central Statistical Office. According to them, at the end of 2010, the total area of forests in Poland amounted to 9121.3 thousand hectares and had an upward trend, this corresponds to 29.2% of forest cover, which allows to obtain about 25 - 26 million square meters of wood per year, while maintaining other forest functions not associated with production. In this way does not require a relatively high demand for energy needed to process the wood<sup>1</sup> while having the potential for the recovery and disposal of waste wood.

In Polish sawmills there are numerous threats that often have a negative impact on well-being and health of workers. Among the wide range of them, the following should be mentioned such as factors contributing to material work environment (e.g. excessive noise, improper temperature at work position and the environment, insufficient illumination, pathogenic impregnates and preservatives) as well as the lack of full mechanization of machining operations. At the same time, these factors have a significant impact on labor productivity in this particular industry. Obviously one cannot ignore other equally important factors, such as working time, rest periods, proper preparation of the work and motivation. Not without significance is the financial condition of the particular company.

In all companies that were the subject of the survey, data obtained during the first survey, current information provided by the departments of health and safety and surveys of workers gathered by anonymous questionnaires were used. Similarly, to the previous study, the material work environment, the level of mechanization of machining operations, the length of working hours and rest periods were examined. The level of accidents at work and the percentage of employees participating in training courses aiming at improving professional

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<sup>1</sup> K. Polek-Duraj, Poziom warunków pracy w dobie globalizacji (studium przypadku – przemysł drzewny Śląska Opolskiego) (w:) D. Kotlorz (red.) Współczesny rynek pracy. Wybrane zagadnienia. Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, Katowice 2011, s. 613.

skills were examined additionally. Randomly selected employees (in each plant, they represented more than half of the workforce) were asked to express an opinion on the level of organization of the workplace and the material environment. The last stage was to refer the responses received, to the level of productivity and compare them with the first study.

In the case of material work environment, in both periods of research, in all plants the greatest threats occurred as a result of impact of excessive noise, too low or too high temperature and excessive mechanical vibrations. According to information obtained from the health and safety departments, the employers tried to compensate partially for the negative impact of these factors by providing employees with individual protective equipment. Similarly, in this regard, the respondents expressed their opinions. The output of first survey were slightly different in this matter, when more than half responded that the action undertaken by the company were negligible and did not have a significant impact on improving the threats.

With regard to working hours and rest periods during the survey undertaken in 2007, 60% of all respondents claimed that at least few times in a month they had worked longer than they should under the command of the manager. Additional remuneration for that work was paid to only one third of employees; the others could usually have only a day off in the period of lower intensity of production. Moreover, one third complained about too short rest periods. Re-examination showed that the situation in this respect has improved considerably. Less than 20% of surveyed employees admitted that they work more than they should. At the same time, almost all (except employees from company number 5) stated that this is done with their consent and for extra remuneration. Occasionally, it happened that in return the employees benefited from the day off, usually at their request. Moreover, none of the employees did express a negative opinion on the compliance of the length of breaks.

In the years 2005 and 2006, the wood manufacturing process was fully mechanized only in two companies (C2, C4). In subsequent years, all other employers have taken action in this direction. Unfortunately, not all companies were successful. The worst situation occurs in the C5 and C10. In both companies, because of losing main permanent contractor, financial problems occurred, and in consequence, the companies stopped investing in modern equipment and staff development. Furthermore, C5 dismissed over one quarter of the crew. Despite so many difficulties, the companies still operate, although the status of machinery and equipment is in bad condition, causing numerous failure and downtime.

While analyzing the level of accidents from second study in relation to the first one, it can be noticed that it has falling tendency, but it fact it is minimal. The performance of individual companies and the causes of accidents had the impact on the level of work accidents. Most were caused by human factor, which is a result of the employee's misconduct in the workplace.

**Table 2.** The average number of accidents per 100 workers in both studies

| specification | C1  | C2  | C3  | C4  | C5  | C6  | C7  | C8  | C9  | C10 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 -2007    | 4,1 | 4,9 | 3,9 | 2,9 | 3,4 | 2,5 | 1,9 | 3,4 | 4,5 | 3,8 |
| 2010-2011     | 2,5 | 3,5 | 3,9 | 1,9 | 3,1 | 3,5 | 1,9 | 3,3 | 4,3 | 3,2 |

Source: self-study

During the study comprising the period 2005-2006, data from all companies indicated that only few employees had the opportunity to improve their professional skills. On average, 10% of the staff attended the training. Based on respondents' answers, it can be concluded that, they were trying not to identify with the company they worked in, since they do not see opportunities for professional development. Currently, the surveyed companies quite often direct their employees for training, seeing it as an opportunity to improve labor efficiency (an

average of one in three - the exception is the C5 and C10, which experienced a decline in the number of employees participating in training) and higher competitiveness both on the local and national timber market. The majority of employers usually organize, once a year, joint training in the workplace.

Comparing the data from both studies, it can be clearly stated that in the examined periods, a significant improvement, in terms of both eliminating and minimizing the impact of adverse factors of material work environment, and improvement of the organization of work and professional skills development occurred. However, there has not been noticed any downward trend in the case of work accidents, the reason is, that most of them arises because of mistakes made by the workers themselves, and not because of the negligence of employers. Health and safety departments in companies, during the second surveyed confirmed (except for one plant - C5) the increase in labor productivity by an average of 16.5%. Unfortunately, no other data on this issue could be obtained. Similar conclusions arise from the opinions expressed in the polls. In 2012, 82% of respondents and in 2007 34% felt that their level of motivation highly contributes to productivity growth. Therefore, it can be concluded that to a large extent improvement of working conditions contributed to the above-mentioned fact, during the period after the first survey. The companies, which reported positive changes, have a strong position on the local market. The recipients of their products are both local and national clients.

The company number 5 has reported a decrease in labor productivity, which from the time perspective was inevitable. Employees suffered largely from the financial problems faced by the company. Some of them were dismissed. Due to the lack of sufficient financial outlay, the company ceased modernization of the machinery and lowered basic salaries by an average of 10-15%. In addition, the training program was limited to a minimum, focusing only on providing the training required by law. At the same time, analyzing the data obtained from the survey, it can be concluded that despite the existing problems workers are trying to perform their duties honestly. However, some of them have already started to look for a new job in fear of liquidation of the company. The situation is somewhat different in the company number 10, in which, despite of the financial difficulties, the lower productivity was not reported. This may be related to the fact that this company is a family run business where everyone cares about company and its good functioning.

## CONCLUSION

Based on the performed surveys, it can be concluded that working conditions play significant role in shaping the productivity of workers in the wood processing companies. The higher the level of working conditions, the safer employees feel at workplace, the more they identify with its objectives and tasks, and the higher the motivation to perform professional duties. Thus, they become more productive, the workload is more effective, and therefore the market position of their companies is better. Given the fact that the period in which the examined factors were improved, coincided with the global economic downturn, it may be assumed that employers in this branch of industry began to realize that it is more beneficial to keep staff with appropriate qualifications, skills and experience rather than hire new one which will need time-consuming and expensive training. Therefore, it can be assumed that employers' actions were carefully thought and planned.

## REFERENCES

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2. <http://www.stat.gov.pl>

**Streszczenie:** *Poziom warunków pracy, a wydajność pracowników na przykładzie tartaków województwa opolskiego.* W niniejszym artykule przedstawiono wpływ zmian warunków pracy na zaangażowanie i wydajność pracowników na podstawie badań ankietowych oraz uzupełniających statystycznych przeprowadzonych w wybranych zakładach przerobu drewna usytuowanych na obszarze województwa opolskiego. Poruszane zagadnienia są ważne z punktu widzenia każdego przedsiębiorstwa, które chce być konkurencyjne na rynku. Warto przy tym podkreślić, że zagadnienia warunków pracy w odniesieniu do wydajności pracowników są niestety rzadko poruszaną kwestią w literaturze przedmiotu.

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