

BEHAVIOURAL DETERMINANTS OF WORK ACCIDENTS AND ABSENTEEISM IN A METALLURGICAL ENTERPRISE

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The purpose of this study is to offer an interpretation of the relationship between accidents and employee absenteeism in terms of quantitative (statistical data on accidents and absenteeism) and qualitative (study of employee attitudes) evaluation. It has been assumed that the description using the results obtained from one group only is incomplete, because the rate of accidents is affected by the attitude of the staff, and in describing the behaviour of employees, the indicators of quality play an important role. The growing popularity of studies on employee behaviour results from the growing importance of human resources in companies. A metallurgical enterprise was selected for the case study.

Key words: metallurgical enterprise, work accidents, absenteeism, employee attitudes, Poland

INTRODUCTION

In manufacturing companies, despite the improvement of production methods, accidents at work are often reported. In Poland, according to statistical surveys, 88 267 people became victim of accidents at work, of which one third were accidents in the processing industry [1]. These accidents resulted in disease-related absenteeism. In 2013, the number of days of absence of workers injured in accidents reached 3 120 036 days. In the previous year it was 3 288 573 days [1]. The obtained annual average is about 35 days of work incapacity per one employee (calculated on the basis of statistical data for the period 2009 - 2013). The steel industry appears to have longer periods of workers' incapacity for work, compared to other industries in Poland. Metallurgy with a period of incapacity of over 40 days ranks third, after mining and agriculture. Improper organisation of work, lack of training on health and safety, no protection at work stands, improper supervision and lack of professional experience are frequent causes of accidents [1]. It is assumed that people bring about accidents through ignorance or non-compliance, routine, inattention, load with stress and family problems [2]. In scientific studies, the quite often adopted assumption is that accidents happen more frequently to people with different types of problems than to other employees [3-4]. The study of employee attitudes is a good example of a tool for analysis of the qualitative results in the field of accidents. Accidents and absences generate additional costs of companies. These are medical and ad-

ministrative expenses, compensation specified in relevant provisions of law to be paid in respect of the incapacity for work, costs of insurance benefits, costs of replacements as well as lost wages of the absent employee, overtime wages paid to other employees, costs of planned and lost hours of work, costs of the temporary disorganisation of work, including machinery and equipment downtime, quality problems, as well as losses in production due to lower productivity [5 - 7]. The costs incurred by the company on account of accidents and employee absenteeism force employers to improve working conditions and control employee behaviour. The policy of developing an appropriate behaviour became in the late 90s an important part of reducing accident rates and absenteeism of workers in American corporations [8]. On the Polish steel market, wider control of hazardous behaviours leading to accidents and absenteeism gained importance in the last decade. Programmes on the behaviour of employees are implemented by companies with foreign ownership capital. Can the implemented programmes reduce accidents and absenteeism? To answer this question, one has used examples of activities undertaken in the ArcelorMittal Steel Company.

METHODOLOGICAL ASSUMPTIONS

In this publication one has assumed that in order to prevent accidents at work, the employees have to be able to control problems and focus on the job. Control of employee behaviour is an important component of the human resources management policy. Analysis of accidents and post-accident absenteeism cannot be limited only to numerical and indicator statistical summaries only (number of accidents, number of victims, categories of acci-

B. Gajdzik, J. Szymszal, Silesian University of Technology in Gliwice, Faculty of Materials Science and Metallurgy, Poland.

D. Zwolińska, Higher School of Labour Safety Management in Katowice, Poland.

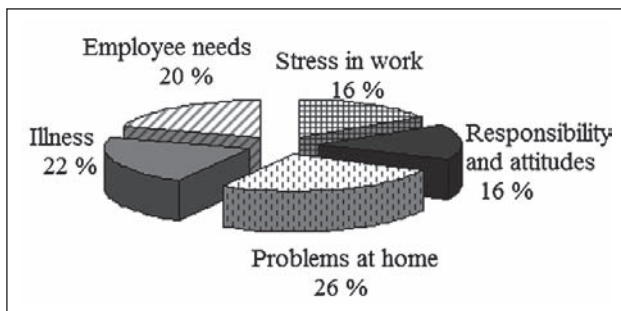


Figure 1 The reasons of work absenteeism [9]

dents, causes of accidents, the rate of absenteeism in days, indicators of the frequency and severity of accidents), but has to be expanded to include the study of employee attitudes. As claimed by S. VanDerWall [9], every sixth employee does not come to work because of wrong attitude to work (problems with responsibility for his work), and every sixth – because of stress. If we combine these two categories, it results that every third employee absent from work has problems with his law in the company or is struggling with stress (Figure 1). Disease, which should be the principal cause of absence, was the real cause only in one out of five cases. The identified causes of employee absenteeism make the employers realize the need to take actions and help employees more effectively solve their problems (referred to as family matters and others) and to change the working conditions to prevent difficult situations.

In the light of the above mentioned studies, one should change the approach to the analysis of the phenomena of accidents and absenteeism, seeking a causal factor in the attitudes of employees. When the employees participate in management of their companies, they also have to take responsibility for problems related with the way they behave [8]. Study of literature and analysis of the case study has allowed one to prepare methodological guidelines for employee behaviour control programmes to prevent accidents and reduce absenteeism.

PROGRAMMES FOR THE CONTROL OF HAZARDOUS BEHAVIOUR OF EMPLOYEES

To control the employee behaviour described as dangerous, which includes accidents and absenteeism, companies have to establish standards describing all work-related reactions. The enterprises should precisely define which cases are classified as undesirable phenomena, and then try to reduce them. The policy of improving the working conditions must be carried out with an active involvement on part of the employees. Traditional forms of work that take the form of commands must be replaced with the assumption of responsibility by the employees for problems resulting from their improper behaviour. The process of building the responsibility cannot be based on the simplified methods of “carrot and stick” approach. The essence of the process is to identify and modify the behaviour of employees on an ongoing basis. The employee has to pos-

sess a sense of responsibility for the operation of the company. The term “employee awareness” is a group of information and beliefs about work, according to which the performance of work should contribute to the achievement of the objectives [2]. Employee awareness should manifest itself not only in the sphere of psychology (the paradigm of imagination), but primarily in specific behaviours (the paradigm of action), with an active involvement in the affairs of the company. The commitment of employees means their active participation in various tasks. Employees with passion should perform work assigned to them and initiate development activities. Employees who spontaneously seek to solve problems and control themselves, can draw conclusions from bad decisions and become responsible for what they do and for what others do. Employees who do not follow rules and methods of work, because they either do not know about them or are not confident that they make sense, and for whom these rules and methods are not a habit, cause losses or contribute to their occurrence [10]. An important element in shaping the employee awareness is a culture of employee health and safety, which is assessed in terms of factors such as safety rules, individual priorities and the need for security, safety as a priority, communication, involvement of the management bodies, support of community, employee involvement, individual assessment of risk and of the working environment [11, 12]. Qualitative studies in this area offer one the possibility to determine, among others, the level of implementation and assimilation of safety standards or organisation of the safety system in the enterprise. The conducted research has shown [13] that every second accident results from the unsafe behaviour of workers (Figure 2).

The causes of unsafe behaviour are: ignorance of the rules, fatigue, routine, stress, family problems, as well as reluctance on the part of the employee to adopt appropriate behaviours. The sources of reasons are to be sought inside and outside the enterprise, e.g. impact of family problems on the employee behaviour. In reviewing the actions taken by the company (literature studies and analysis of case studies), the following categories of the area of prevention activities were established to control the dangerous behaviours, such as accidents and absenteeism [3]:

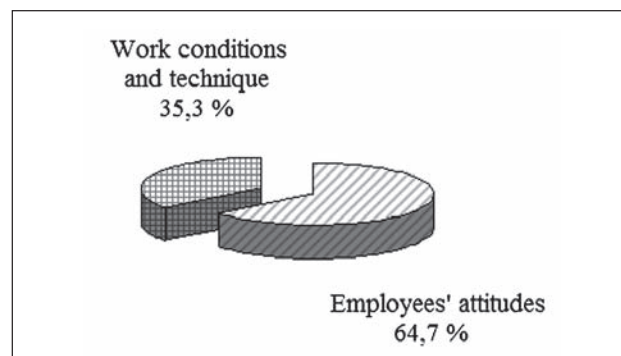


Figure 2 The reasons of work accidents in the metallurgical enterprise [13]

- training of managers, teams and employees directed towards the development of an ability to define and recognize borders that separate normal behaviour from the inappropriate, unacceptable and abnormal ones,
- policy of positive reinforcement - rewarding positive behaviour, e.g. bonuses for teams with the lowest rates of absenteeism,
- policy prohibiting inappropriate behaviour, such as non-compliance with applicable regulations, standards and procedures, failure to comply with assigned responsibilities, failure to use personal protective equipment, alcohol abuse, refusal to perform the assigned tasks, etc.
- delegation of authority, e.g. granting teams with authority to make decisions about their daily activities, introduction of forms of staff self-control during work, employee participation in the improvement of organisation of work (Kaizen),
- programmes and ancillary services, e.g. health protection programmes, work-life programmes.

The scope of these activities in individual companies differs to a certain extent. This depends on the type of activities and size of the company. On the Polish market, methods changing employee behaviour are more frequently applied in large foreign companies, rather than in those with Polish capital. This situation occurs in the steel sector, which is dominated by international capital groups, e. g. ArcelorMittal.

BEHAVIOURAL DETERMINANTS OF ACCIDENTS AND ABSENTEEISM – A CASE STUDY

ArcelorMittal Group has been operating in the Polish steel market since 2007. For the purpose of this study, the accident rate was compared for the period before and after the introduction of the Company to the Polish market. Figure 3 summarizes the number of ac-

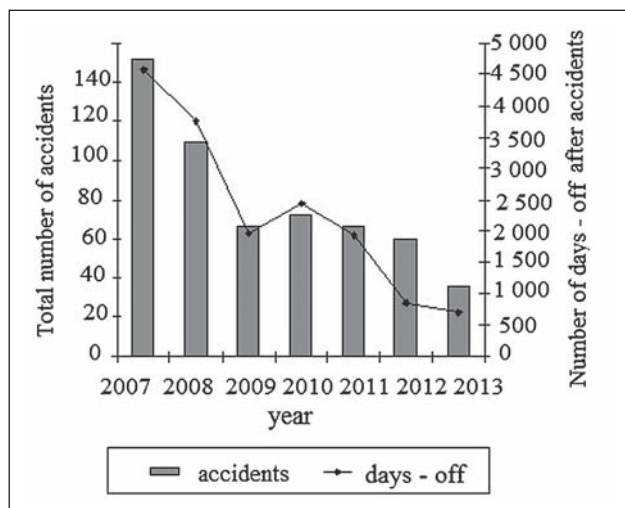


Figure 3 Number of accidents and days-off after accidents in ArcelorMittal Poland in the period of 2007 -2013 [13]

cidents and number of days - off after accidents in the period of 2007 - 2013.

The comparison shows that the number of accidents decreased by 76 %. This result from a consistent policy of improving the work safety conditions and of the implementing certified safety and health management systems. The programme of workers’ awareness management in metallurgical enterprise ArcelorMittal Poland has been initiated in 2007. The program is a part of safety and work hygiene management system. In 2007 when the enterprise started to participate in the program of awareness management there were 76 accidents in total and it was 58 more than in 2013. In 2008, the Company decided for the first time to study the level of the staff commitment with a score of 31 %. In an attempt to increase the commitment of the workers, the Company introduced a wide range of various measures relating to employee behaviour. As a result of those measures, in 2011, the level of the commitment was 47 % [10]. In 2010, the Company launched an absenteeism management programme to reduce the cost of absenteeism. In 2007 number of days - off after accidents was 4 571, in 2013 it was 707 days - off. Severity rate decreased by 82 %.

$$\text{Severity rate} = \frac{\text{Number of days - off after accidents} \times 1\,000}{\text{Worked workhours}} \quad (1)$$

The chart in Figure 4 shows changes in the severity rate in the period of 2007 - 2013.

The compiled statistical data confirm the assumption adopted in this study that a change in the employee attitude reduces the rate of accidents in a company. The index of total absenteeism in the Company decreased from 4,8 in 2010 to 4,18 in 2013 (planned index was 3,6) [13].

$$\text{Absenteeism index} = \frac{\text{Number of days - off (without postaccidents and maternal period)}}{\text{Nominal workdays}} \times 100\% \quad (2)$$

The chart in Figure 5 shows changes in the index in the period of 2010 - 2013.

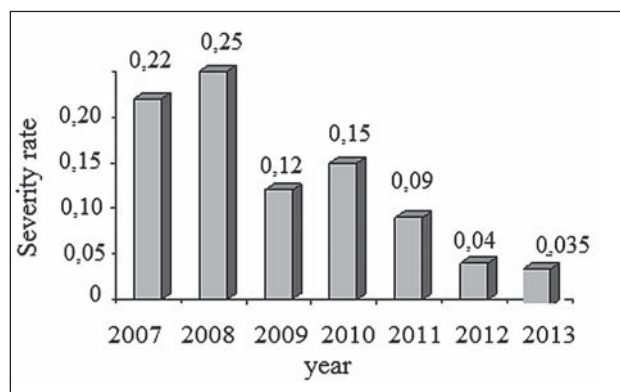


Figure 4 Severity rate at ArcelorMittal Poland in the period of 2007 -2013 [13]

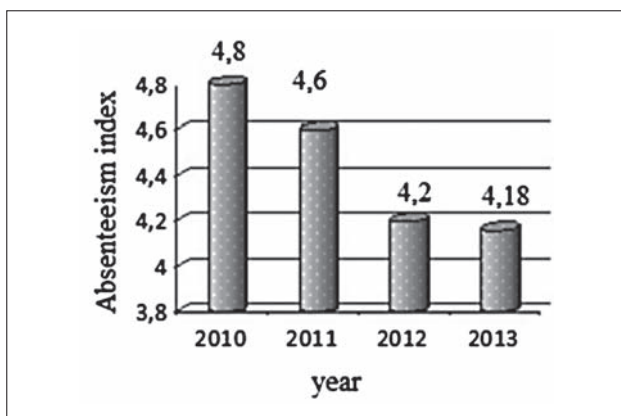


Figure 5 Absenteeism index in the Company in the period of 2010 - 2013 [14]

SUMMARY

There is a relationship between realized programmes, in analysed enterprise, and absenteeism. The results of the programmes are the changes of workers' behaviour and attitudes. Control of employee behaviour is an important component of human resources management. Companies by implementation of the programmes can decrease both accidents and days-off after accidents.

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Note: The responsible translator for English language is Zenon Styczyrz, Katowice, Poland