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## Improving safety culture in the company based on attitudes and behavior of its employees

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**Improving safety culture in the company based on attitudes and behavior of its employees**

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## **Improving safety culture in the company based on attitudes and behavior of its employees**

**JEL Classification:** *I1;D2;A3; L2*

**Keywords:** *safety management; organizational culture; safety culture; human factor; working environment*

### **Abstract**

**Research background:** The paper presents basic issues related to safety culture. Moreover, there can be found an information about the factors determining the desirable and undesirable, as well as the good and bad safety culture, and the most important knowledge concerning its shaping. The empirical part presents the studies on the impact of attitudes and behavior of employees on the development of safety culture. Elements were tested such as: environment and working conditions, and behaviors and attitudes of employees.

**Purpose of the article:** The aim of the study was to analyze attitudes and behaviors of employees and their impact on shaping the safety culture in a given company. The learning goal of the project was an introduction to the opinion of surveyed employees about work safety culture in the company. The utilitarian aim of the study was to draw attention to the need of taking action to influence attitudes and behavior of employees on shaping the areas of work safety culture in order to improve safety culture and thereby improve safety in the company.

**Methodology/methods:** Research tools were: interview, documentation analysis and anonymous survey of company employees.

**Findings & Value added:** The study shows that the majority of employees act in accordance with rules and try not to take risky actions, they also feel responsible for the safety of themselves and their co-workers, the environment and working conditions are in line with legal requirements, and accidents rarely occur. In the surveyed company the safety culture is high, which is proven by features such as: a sense of personal responsibility of each employee for safety matters, lack of acceptance for people taking risky behavior, compliance with health and safety regulations and appreciation of their validity – those are most frequently mentioned features of performance of high culture safety in workplace.

## **Introduction**

The paper presents the fundamental questions relating to the safety culture. It explains the ideas such as “culture” and “organizational culture”, which safety culture makes a part of. It contains also the information about the factors defining desired and undesired, good and bad safety culture and introduces a model of safety culture development. The empirical part presents the study of the influence of employees’ attitudes and behaviour on safety culture development, based on the model of safety culture development. The model elements studied are: environment and conditions of work and employees’ behaviour and attitudes, the research tools being: an interview, analysis of the relevant documentation and anonymous survey carried out among employees of an company.

The main goal of the study is to analyse employees’ attitudes and behaviour together with their influence on safety culture development in an company. The cognitive purpose assumed is getting to know the employees’ opinion regarding the work safety culture in the company studied. The utilitarian purpose is to draw attention to the necessity of taking action to influence the employees attitudes and behaviour with regard to development of the work safety culture areas, with aim to improve the safety in an company.

## **Safety Culture at Work**

Safety culture determines the attitude of people towards risk and safety. It formulates the rules of conduct and the values recognized by members of a given group.

When discussing safety culture we must bear in mind three main areas of management: people, information and organization. This is due to the fact that people are the subject of all managerial activities, because it is up to them whether safety management should be effective. Lack of understanding and acceptance of any changes may result in rather unproductive management and will not give any effects. Cooperation between employees and employers is of vital importance, because communication based on mutual trust is an essential feature of high safety culture. The employer is responsible for the safety and hygienic conditions of work and the life and health of his/her subordinates. However, the actions taken by the management will not suffice on their own, because this is mainly the employees, through their behaviour, sometimes risky and hazardous, who influence the safety level in workplace. Hence the importance of cooperation between the workers and employer. (Bugajska, J., Konarska, M., Kurkus-Rozowska, B., & Łuczak, A. ,1998; Bird, F.E., & Germain, G.L. ,1996). Safety culture,

however, refers not only to organizations but also a society, a group of people and individuals. Desired and undesired safety culture can be identified with regard to safety culture of an organization, a group of people, as well as individuals.

Each organization has got its own unique safety culture, therefore, organizations can be differentiated with respect to their safety culture.

In this context we can differentiate between desired or undesired and good or bad safety culture. Organization abilities to generate decisions, attitudes and behaviour, organizational, technical, training and motivational achievements, these abilities which bring the organization closer to the absolute safety criterion define the extent to which its safety culture is desired or good (Gembalska-Kwieceń, A. ,2005; Gembalska-Kwieceń, A., &Kólkowska, B. ,2005).

The safety culture status - desired or undesired - in an organization depends on its all members: on senior management, who set the safety goals, rules and plans, as well as on employees who shape the safety culture with their conduct and attitudes. It is important that high level of safety culture characterizes all elements of human activity. Safety culture in an company premises must involve employees' personal culture and their behaviour. It should be shaped at all stages of human life, because an employee of low personal safety culture will not demonstrate high safety culture in his/her workplace. Therefore, development of desired safety culture should be initiated already in the school education phase (Milczarek, M.,2000).

Safety culture should be continually developed to maintain its high level and to further improve it.

Safety culture development must be a continuous process, because the actual culture shift is difficult and time-demanding. One-off actions to improve safety culture will bring only seeming effects, as they will reach only the most superficial culture stratum, termed "artefact" by Schein (Podgórski, D., &Pawłowska, Z. ,2004; Studenski, R. ,2000). To maintain a high level of safety culture we also need to reach deeper culture strata, i.e. the recognized values and fundamental assumptions.

During safety culture development three elements should be given special attention:

- The physical work environment (tools, machinery, workplace organization);
- Employees' behaviour (complying with OHS regulations, information forwarding and cooperation, showing care for safety that reaches beyond standard duties);
- Employees' intrinsic features (knowledge, skills, motivation).

## **Subject, Methods and Results of Studies**

The object of the study described in this paper is a company from heating industry. However, its name will not be exposed as it was not agreed as well as to permit the employees to give the reliable answer, and this was distinctly stressed during the briefing before the study proceeded.

The study consisted in analysis of the influence that employees' attitudes and behaviour have on work safety culture in the company studied. The object of the study were 240 randomly selected persons, holding different positions; 213 surveys were suitable for further processing.

The analysis of the influence that employees' attitudes and behaviour have on work safety culture in the company was carried out on the principle of safety culture development model, which comprises elements such as: work physical environment, employees' individual features and behaviour.

To obtain the necessary information the following study methods were used:

- survey,
- interview,
- analysis of documentation.

The analysis of the employees' attitudes and behaviour was carried out on the basis of the survey which consisted of 21 closed questions. The employees had to choose one from the answers listed.

## **Analysis of the Study of Work Material Environment and Work Conditions in the Company**

The work environment is one of the elements that influence development of the safety culture in a company and its investigation is a legal obligation. Work environment comprises the total of material and social factors, which employees encounter when working and which can constitute a safety or even life hazard. The material factors in work environment include, among others: plant premises, machinery, tools, equipment, buildings, rooms and other factors of physical and chemical nature, for example: meteorological conditions (microclimate) and lighting, acoustic and mechanical vibrations (noise, vibrations, shocks), chemical substances, industrial metals, gases, greases, oils. Social work conditions comprise interpersonal relations, social living conditions and employees' participation in the organization activities.

Study methods such as interview and the analysis of documentation were applied to obtain information needed to assess the work environment in the studied company.

The company carries out the OHS controls and the measurements of harmful factors, i.e. dust, harmful chemical substances and noise. All haz-

ards are identified and documented and the occupational hazards are assessed. Additionally, other instructions list the jobs done at heights and jobs that must be done by two people. OHS as well as fire-protection controls are regularly carried out by OHS inspector and results of each control are documented in the relevant inspection diary in a form of a report. The report is forwarded further to the Board of Directors and the irregularities recorded are corrected. In addition, once a year complex OHS inspections are carried out in each of company's facilities, with the participation of a special OHS commission. The results of such an inspection are passed on to the Board, and the identified faults and shortcomings are removed or, if difficult to eliminate, they are included in the renovation schedule for next year.

The analysis of the report of the environmental study that was carried out in the company shows that the harmful factors do not exceed the standards allowed. Work conditions are in accordance with requirements.

Interview with the OHS Inspector and the analysis of documentation prove that the work environment and OHS conditions are in accordance with standards and are continually improving and the workplace hazards are being successively eliminated within bounds of possibility. The company does care for its employees and the natural environment.

## **The Analysis of Accident Rate**

The statistical accident files of the years: 2012-2016 were studied to analyse the structure of accidents at work in the company. The following criteria were considered: sex, birth year, work experience in years, profession performed, days of incapacity for work after an accident, place of accident, type of injury, cause of accident. The causes were classified in accordance with the list of accident causes which is in force when the statistical accident files are compiled.

The analysis of the above data for accident types and causes in years 2012-2016 shows that:

1. 12 accidents happened in the company in the years 2012-2016.
2. 2 women and 10 men were subject to accidents.
3. The average period of work in this company among the injured was 7 years and 2 months.
4. With respect to their results all the accidents were classified as minor accidents.
5. The total of "incapacity for work" days related to the accidents at work in the studied period amounted to 232 days.

- The most frequent injuries caused by accidents at work were sprain and dislocation of joints of upper and lower limbs, thigh injury and eyes injury.
6. The most frequent causes of accident were:
    - incorrect organization of workplace,
    - ignorance about hazards,
    - insufficient concentration on the performed action,
    - surprise at unexpected event,
    - wrong work speed,
    - lack of supervision,
    - organizational shortcomings.
  7. The average number of accidents in the studied period of time amounted to just over 2,4 accidents per year. This fact proves that the accident rate in the company is very low. Since all the accidents are classified as minor, it can be stated that work safety in the company presents good level.

## **Results of Studies Relating to Employees' Attitudes and Behaviour**

The results obtained in the study show the influence of employees attitudes and behaviour on development of safety culture in the company. 52% of the employees surveyed claim to be motivated to secure working through posters, 48% consider that their superiors appreciate these employees who act in accordance with the regulations and who respect OHS issues, 6% actively submit their comments and concepts regarding OHS improvement.

53% of employees surveyed reproach employees who do not comply with OHS regulations, whereas 21% report this problem to a superior, what attests to understanding of importance of work safety issues and hazards. 46% affirm that the employees participate in hazard identification and risk assessment at their workplace.

The study shows that as many as 72% of persons surveyed think that all employees have an effect on creating safe work conditions in the company. 82% consider OHS regulations as the principles protecting from accidents, whereas 72% feel responsible for the safety of their co-workers. 87% of employees know the hazards related to their workplace. Facing hazard at workplace 78% will report it to their superior, 42% will not take any risky actions during their work, whereas 59% will refuse to work if the workplace does not meet OHS requirements. 46% consider incorrect employees behaviour to be the most frequent accident cause.

44% of the persons surveyed think that OHS training is necessary to work in safe conditions, 52% claim that all accidents which happen in the company are discussed at trainings, 22% confirm that the consequences of



accidents at work are discussed and 14% that employees' propositions and comments concerning improvement of OHS are discussed at the trainings. This demonstrates that the incidents occurring in the company are discussed completely and that the employees can make their propositions and comments aiming at raising the safety level.

In the opinion of 27% of the employees the relations among the employees in the company's facilities are good, there is an open and frank communication and cooperation, whereas 28% of the surveyed think that the atmosphere in the company is favorable for open and frank discussions about the safety at work.

## Conclusions

The study shows that the majority of employees act in accordance with rules and try not to take risky actions, they also feel responsible for the safety of themselves and their co-workers, the environment and working conditions are in line with legal requirements, and accidents rarely occur. In the surveyed company the safety culture is high, which is proven by features such as: a sense of personal responsibility of each employee for safety matters, lack of acceptance for people taking risky behavior, compliance with health and safety regulations and appreciation of their validity – those are most frequently mentioned features of performance of high culture safety in workplace.

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