Abstract: The article presents a discussion on the essence and scope of the concept of work safety culture and indicates the importance of this phenomenon in the process of increasing work safety and security in a company. Selected classifications of safety culture factors are described, and the more important ones are characterized. In particular, attention is paid to the issues of analyzing and developing work safety culture. The aim of the article is to present the concept of diagnosing work safety culture in a modern company and the conditions for its implementation. The results of empirical research obtained with the use of the abovementioned analysis methodology are also presented. In the process of diagnosing the culture of occupational safety, the case study method and the technique of document analysis as well as discussions and interviews with management and employees were used. The article concludes with general substantive recommendations and methodological guidelines for companies.

Keywords: work safety culture, fundamental company values, analysis of safety culture factors

1. Work safety culture—the essence and meaning

The aim of the article is to present the concept of diagnosing work safety culture in a modern company and to present the results of empirical research.
The subject of the research was the identification and analysis of the factors of work safety culture resulting from the company’s strategy, structure and leadership (hierarchical dependencies) as well as values appreciated by the company in the area of cooperation with customers, employees and competitors.

It is worth emphasizing that the analysis of elements or aspects of work safety culture is still a poorly recognized and understood issue of economic and ergonomic analysis of a company.

Another, no less important issue of the analysis is the determination of the importance of work safety culture in increasing the well-being of employees, considered in the context of the functioning and development of the company.

The concept of safety culture dates back to the beginning of the twentieth century, when it was observed that employees developed their own standards, values and methods of conduct within the workplace (ILO, 2015; Milczarek, 2002). The concept of safety culture in a company appeared in the literature after the Chernobyl disaster in 1986, when the report prepared by the appointed committee referred to safety culture (INSAG, 1991). It is worth adding that the sources of major breakdowns that have occurred in the world in recent years are believed to be insufficient levels of safety culture (Morrow, Koves and Barnes, 2014). Therefore, many industries are interested in safety culture in terms of the possibility of using it to prevent major breakdowns and accidents related to the performance of routine tasks. In the last twenty years, safety culture has increasingly appeared in studies on occupational safety and health (OSH) in companies. In studies on these topics, the concept of safety culture is understood as a set of psychological, social and organizational factors that initiate or support activities that protect life and health both at work and in non-professional activities (Studenski, 2000). Selected, more important aspects of safety culture assessment, such as: values in the area of safety, relations between employees and their sense of belonging to the company, responsibility and awareness of OHS, safe behaviour, management commitment and employee participation, along with OHS training and accident analysis (see Figure 1), can also be considered as the nodal task areas of work safety culture.

1 The interaction between the elements of culture creating the work environment and individual needs, aspirations, abilities and expectations of employees is of key importance for the interpretation of the work safety culture. Although elements of work safety culture affect attitudes towards work, the individually perceived quality of the work environment, conditions and applicable rules is a benchmark for the employee’s situation and if it is not conducive to development (well-being), no other factors will be effective (Lipińska-Grobelny and Michałkowska, 2018, p. 35). Therefore, it is possible to indicate the relationship between work safety culture and the organizational climate. The organizational climate expresses the feelings and opinions of employees relating to selected elements of culture and organizational factors (Bitsani, 2013, p. 50; Wudarzewski, 2013, p. 59). Sobolak and Konodyba-Szymańska understand work safety culture differently. These authors emphasize that it is a part of organizational culture and, in essence, refers to the behaviour of the entire staff, the way of performing work and the ability to use equipment, as well as organizational conditions affecting occupational health and safety; the information system promoting activities in the field of labour protection has a strong impact on strengthening work safety culture (Sobolak and Konodyba-Szymańska, 2012, p. 261).
The main function of safety culture is to reduce uncertainty, both that resulting from functioning in a changing environment and internal uncertainty, and this is done by presenting a basic, common vision of the world of internal and external organization. In this way, it increases the predictability of organizational behaviour without having to resort to detailed regulation of all issues with the use of multiplying regulations (Kozioł and Wojtowicz, 2005, p. 11).

Admittedly, in recent years we have observed an increase in interest in the issues of occupational health and safety. However, despite the development and dissemination of the principles of system management (development of the ISO series standards), adaptation of Polish law to European standards, implementation of preventive programmes (BBS) in organizations, the growing popularity of initiatives aimed at building a safety culture—the level of safety in Polish organizations, measured by accident rates, is not undergoing significant changes (Roszko-Wójtowicz, 2015, p. 89; Kozioł, Muszyński and Kulwicki, 2018). In the area of occupational health and safety management, the traditional approach to OHS, based on compliance with legal requirements, still dominates, where the main motivator for entrepreneurs is the fear of sanctions, penalties imposed by state supervision authorities over working conditions (National Labour Inspectorate, State Sanitary Inspectorate, Office of Technical Inspection), there is no systemic approach to OHS and environmental management based on proactive measures and continuous improvement of processes. Most Polish entrepreneurs do not conduct health and safety cost analyses, thus the losses incurred by companies due to poor working conditions are not analyzed. Failure to perceive losses translates into economic consequences (Smoliński and Solecki, 2015).

The introduction of a differentiated compulsory insurance premium, the amount of which depended on the size of the total risk (occupational risk), resulted in little in this respect, i.e. the improvement of work safety (Sobolak and Konodyba-Szymańska, 2004). The reasons for these failures are seen mainly in the low level of safety culture. The lower level of safety culture among Poles compared to the British is mainly due to low awareness of the risks that almost every job carries, inappropriate attitudes of employees and the lack of genuine organizational commitment on their part (Studenski, 1996).
2. The results of research on work safety culture—a review

Safety culture sets out the rules of conduct and values recognized by members of a given group and defines people’s attitude towards risk and safety. It also maintains the values, visions, work style, beliefs and results of the organization (Kopczewski, Pączek and Tobolski, 2012, pp. 923–929). When talking about safety culture, one should always bear in mind three main areas of management: human, information and organization. This is due to the fact that a human being is the subject of all management activities, as it is up to him whether safety management will be effective. Failure to understand and accept any changes may result in management being of little or no effect. In this context, two areas of cultural competence and communication seem important. Competences can be perceived as a set of interrelated elements (Glinka and Kostera, 2012):

– the ability to understand other people;
– the ability to cooperate and maintain intensive cultural contacts with them.

Safety culture consists of elements that are easy to observe, for example, safe work instructions, employees’ compliance with safe work instructions and proper use of personal protective equipment, and less visible ones—the attitude of management and employees towards OSH matters, standards of behaviour in the area of safety, and the level of work safety cultures are defined by, among others, the standards of efficiency of information flow in the company.

The purpose of shaping the desired safety culture is to persuade employees to act in ways aimed at protecting the health and life of themselves, their colleagues and all people who are in any way affected by the company’s operations. Thus, a company with a high safety culture is one whose employees are characterized by active, continuous care for their own and others’ safety, going beyond their obligations when it comes to identifying corrective actions. It is particularly important to develop an appropriate safety culture during training in the field of occupational health and safety because it is an important time that allows the employee to instil appropriate attitudes in the field of safety, which in turn translates into an increase in the economic effects of the organization and the well-being of employees. Important prerequisites for the development of a culture of occupational safety are: the commitment of top management, open and effective internal communication, employee participation in management, accident analysis, reinforcement of safe behaviour and cooperation among employees (Ejdys [ed.], 2010). This list can be supplemented with additional conditions for shaping work safety culture, namely the management style and quality of safety management in the organization and ergonomic awareness, which includes (Berkowska, Drzewiecka and Mrugalska, 2014):

– awareness of the field of ergonomics;
– ensuring compliance with the principles of ergonomics;
– perception, which consists of knowledge from experience of how ergonomics is perceived in an organization;
– attention—understood as due care for ergonomic working conditions.

As it can be seen, the relationship between occupational safety management and safety culture is specific, which results from the fact that management is one of the indications of culture in an organization. Both of these factors regulate the behaviour of people in the organization, management of occupational safety through formal rules and procedures, and safety culture through informal standards that relate to, among others, the way tasks are performed, interpersonal relations, work motivation.
Extensive and adequately in-depth research on various aspects of work safety in the company has shown that the main reason for the low level of this phenomenon are primarily management errors. As an example, the results of an analysis carried out in large steel plants are given. Most of the employees surveyed considered the following factors as contributing to the emergence of accident hazards: low interest of the management and company employees in OHS issues, inappropriate and ineffective motivation and communication, and a low level of safety culture (Konodyba-Szymańska, 2010). Other, extensive research on occupational safety management, conducted among several hundred employees of mines, steelworks and timber industry plants, confirmed the given thesis that the low level and condition of work safety and its lack of improvement are the result of improper management (Sobolak and Konodyba-Szymańska, 2012). In particular, these studies show that among the three synthetic factors shaping work safety, personnel factors, i.e. work organization and human factor, have the greatest impact on its condition, while the material factor has a smaller impact.

The results of a survey of the level of employers’ awareness of the subject of work safety culture indicate that only half (53% of respondents) are interested in this subject; only a quarter of them see the economic benefits of investing in safety.

In the context of employees’ well-being, it should be noted that occupational safety should involve not only creating and respecting binding legal regulations regarding occupational health and safety, but also, inter alia, mitigating the negative consequences of making management more flexible in a given organization. Guy Standing (2016) states that job insecurity, fixed-term contracts and minimum job protection actually add up to a lack of career development opportunities; they do not provide a sense of professional identity. This flexibility and insecurity are a source of fear and frustration among employees. People are placed in precarious situations, leading to insecurity in the realm of existence, living in the present, with no identity providing a sense of security. For businesses, this means a decline in employee engagement. In this situation, the issue of promoting the well-being of employees takes on particular importance. This requires, first of all, recognizing their expectations for a safe working environment.

One more important issue from the point of view of safety culture, which is less well-known to the general public, concerns the combination of events and coincidences, i.e. overlapping of symptoms of danger, which causes a negative synergy effect.

Numerous studies on OHS emphasize the importance of techniques and technology. Although it is difficult to determine the causes of accidents at work, statistical data show that they are made up of (Gabrylewicz, 2016):

- human causes (about 60%);
- organizational causes (about 30%);
- technical causes (about 10%).

In search of reasons for a low level of occupational safety, certain features of the company, analyzed separately, may not show any signs of being causes or determinants of OHS. However, when they co-occur with other factors or circumstances, they may lead to a threat to the life or health of an employee, a reduction in the quality of production or a negative impact on the environment. It should therefore be assumed that irregularities in the functioning of the company occur as a result of a combination of events and coincidences, which causes a multiplied, negative effect.

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Extensive research on the assessment of the level of safety culture carried out by CIOP-PIB showed that in units with a higher level of safety culture more often a higher rate of expenditure on prevention per employee was observed, and these units were characterized by a good financial situation. Moreover, it was found that a higher assessment of work safety culture can be applied to almost all of its aspects (Fig. 1). The highest scores were: suitability and awareness of OHS, values in the area of safety and safe behaviour, while they were worst for OHS training (Galwas-Grzeszkiewicz and Rzepecki, 2017).

Other interesting studies on these topics have shown that employees participating in non-compulsory training in the workplace have a better perception and higher assessment of work safety culture than people who do not take advantage of additional training. However, in the case of both groups of employees, training was rated the lowest (Ocieczek, 2018).

The conducted analyses show that the culture of occupational safety consists of elements related to the area of techniques and technology, work organization and management, information flow, and the attitude of management and employees towards occupational health and safety and ergonomics. The last-mentioned issues are the most frequently studied subject and scope of research by authors dealing with work safety culture.

At the end of the analysis of selected issues of research and development of work safety culture in the organization, several comments and reflections of practical nature have been formulated:

– the effectiveness of occupational safety system depends, to a large extent, on the example and commitment of management to the issues of occupational safety culture;
– occupational safety regulations and technical safety measures applied without the support of the awareness of people promoting safety at work may turn out to be ineffective;
– irregularities in the functioning of the company in the area of OHS occur as a result of a combination of events and coincidences, i.e. overlapping symptoms, which causes a negative synergy effect; hence the conclusion of a comprehensive study of risk factors and the analysis of their dynamic complexity;
– an increase in expenditure on technical measures for occupational safety without making an appropriate change in work safety culture, especially in the ergonomic awareness of employees, does not bring the expected results in terms of improving safety at work;
– in the context of employees’ well-being, work safety, especially work safety culture, should also involve the issue of the negative effects of making work organization and company management more flexible. Uncertainty of employment, fixed-term contracts, minimum job protection, lack of opportunities for employee development do not ensure a sense of professional identity and the development of a safety culture in the company.

Both the obtained research results and managerial pragmatics indicate quite unambiguously that safety culture is assessed highly at the declarative level, while when translated into actual actions it only covers the fulfilment of the requirements of Polish law. This means that the traditional approach to OHS is still the dominant one, which is confirmed by the statements made. It is worth noting that in companies with implemented management systems for specific awareness of employers in the field of cost analysis, investment in OHS is higher, and the culture of work safety is also higher.
3. The concept of diagnosing work safety culture

The study of work safety culture is based on the assessment of the distance between the empirically established features of culture and the features desired due to the existing reference points. Referring to the concept of J. M. Kobi and H. Wurtchitz³, in the research the frame of reference is the so-called fundamental orientations of work safety culture, such as the company’s development strategy, elements of structure and leadership, and values prized by the company, especially those that are in the area of cooperation with customers, business partners and colleagues.

The research was conducted in a service company operating in the financial sector that manages customers’ receivables. Among others, it deals with legal services, economic information, and it provides lending services for customers. The company is a joint-stock company with a share capital of 20 million PLN—it operates in Poland and abroad. Employees working for the company perform office work using computers and other IT tools, and also participate in negotiations, meetings and seminars. Work takes place in comfortable physical conditions (as regards the material working environment), is characterized by high complexity and responsibility, causes stress, especially in the process of negotiations and discussions with customers and contractors. There have been no accidents at work in the last two years.

In the process of diagnosing the culture of occupational safety, the case study method was used, in particular the analysis of documents, discussions and interviews with management and employees. The research methodology included two stages of the analysis:

- identification of the fundamental values of the company from the point of view of the requirements of the strategy, structure and cooperation included in three areas of cooperation with stakeholders;
- verification and interpretation of cultural requirements resulting from the provisions in the strategy and other documents adopted as a reference system in the process of examining work safety culture.

The results of the analysis made it possible to identify and classify the values that guide the company—functional values in relation to the company’s safety culture (see Table 1).

Table 1. The division of company values according to the criterion of the area of cooperation

<table>
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<th>Area of cooperation</th>
<th>Description</th>
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| With customers      | treating customers with respect  
|                     | ensuring the security of personal data  
|                     | consulting, joint search for a solution to a problem  
|                     | providing assistance in a difficult financial situation  |
| With business partners | being respectful of competitors  
|                      | individual approach to the needs of partners  
|                      | maintaining confidentiality of information  
|                      | avoiding conflicts of interest  
|                      | working on fair and transparent terms  
|                      | striving for long-term and lasting relationships  |

³ The “fundamental cultural orientations of a company” are mentioned by the authors as: customers, associates, results, performance, innovation, costs, communication, identification with the company, technology. (Cited after: Marcinkowski and Sobczak, 2000, p. 7).
With employees

- taking care of the company’s reputation
- taking care of good relations within the company
- mutual assistance
- tolerance
- basing relationships on mutual respect and partnership
- continuous improvement of qualifications

Source: Authors’ own elaboration.

From this perspective, the following elements of work safety culture seem to be important:
- concern for the welfare and safety of oneself and others;
- ability to cooperate, including corrective actions in the field of ergonomics;
- staff members can count on help and support from colleagues;
- the ability to understand other people;
- defining the management style and the area of employee participation in management;
- shaping work safety culture during training and seminars, which are a good opportunity to instil and create favourable attitudes in the field of work safety culture, which ultimately translates into an increase in the company’s effects and employee well-being.

As it can be seen, in the examined company, as well as in other knowledge-based organizations of this type, non-material conditions of the work environment dominate as factors of work difficulties; material conditions are of less importance in the process of examining and shaping work safety culture.

The results of the analysis constitute the basis for further diagnostic tests, in particular the preparation of a standardized questionnaire, which, according to the abovementioned researchers, should cover the following phenomena and processes: strengths and weaknesses of the company, cooperation, information and communication, employee characteristics, promotion mechanisms, climate in the company, the image of the chairman of the board (director), demographic and social data of employees, principles and tools of personnel policy and others (Marcinkowski and Sobczak, 2000; Jedynak, 2004).

4. Final remarks and conclusions

Based on the presented research results and the authors’ own thoughts, it is possible to indicate general recommendations for companies concerning mainly the methodological issues of examining safety culture:
- the binding, formalized rules, established and adopted strategies, structures, systems of motivation and control strongly influence the behaviour of people in the work process and should constitute the initial stage of diagnosing work safety culture;
- the system of values and norms, unwritten rules of conduct and hidden assumptions (i.e. the de facto organizational climate) are an important supplement and support for the safety management system;
- before any intervention in the culture of occupational safety takes place, it is necessary to define the desired set of norms, values and meanings from the point of view of the re-
quirements of the strategy, i.e. the state of the desired culture, and on this basis to develop an appropriate research tool, e.g. a questionnaire;

– work safety culture should also be considered (examined) in terms of a subjective perspective, directly related to the individual interpretation of the work situation, strategy, structure, motivation and action.

The conclusion should indicate the conditions for implementing the methodology for diagnosing work safety culture in the company, and in particular, the nature of its activity, the level of modernity, formalization and values should be taken into account, as well as the assessment of the external environment and the industry in which it operates.

References


Badanie kultury bezpieczeństwa pracy w przedsiębiorstwie

**Abstract:** W artykule przedstawiono dyskusję wokół istoty i zakresu pojęcia kultury bezpieczeństwa pracy oraz wskazano na znaczenie tego zjawiska w procesie zwiększania ochrony i bezpieczeństwa pracy w przedsiębiorstwie. Opisano wybrane klasyfikacje czynników kultury bezpieczeństwa oraz scharakteryzowano ważniejsze z nich. W szczególności zwrócono uwagę na kwestie analizy i rozwoju kultury bezpieczeństwa pracy. Celem artykułu jest przedstawienie koncepcji diagnozowania kultury bezpieczeństwa pracy we współczesnym przedsiębiorstwie oraz warunki jej implementacji. Zaprezentowano również wyniki badań empirycznych uzyskańych za pomocą wspomnianej metodyki analizy. W procesie diagnozowania kultury bezpieczeństwa pracy zastosowano metodę studium przypadku oraz technikę analizy dokumentów, rozmowy i wywiady z kadrą kierowniczą i pracownikami. W zakończeniu artykułu podano ogólne rekomendacje merytoryczne oraz wskazania metodyczne dla przedsiębiorstw.

**Słowa kluczowe:** kultura bezpieczeństwa pracy, fundamentalne wartości przedsiębiorstwa, analiza czynników kultury bezpieczeństwa