
The Role of Safety Communication in Preventing Accidents at Work and Sustainable Development of the Company

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Abstract:

Purpose: The aim of the article is to examine the cases of undertaking safety communication in Polish enterprises in the context of the organisation's sustainable development strategy (social aspect).

Design/Methodology/Approach: As part of the research undertaken, cases of safety communication in Polish enterprises were analysed. The study consisted of two parts - observations of the provision of health and safety communication and conversations with employees of health and safety departments (on the difficulties of safety communication). Then, the obtained results were summarized, and the communication channels used in enterprises and the barriers to their use were indicated.

Findings: The research results allowed to develop a preliminary proposal for a model for undertaking safety communication in an organisation, taking into account the most important aspects in achieving the effectiveness of this communication. Its implementation aims to bring the company closer to meeting the goal of sustainable development in the aspect of ensuring safe working conditions and employee well-being.

Practical Implications: Despite different legal restrictions related to safety in different countries, the model allows for its application in international organisations that adopt similar goals in the social context of sustainable development. This may enable more unified actions in the context of global practices in this area.

Originality/Value: The undertaken research aims to reduce the research gap in the scope of the importance of appropriate safety communication in the sustainable development of the enterprise. It indicates that communication can be a key factor in influencing employee behavior and also their involvement in sustainable activities.

Keywords: Occupational health and safety, safety communication, safety culture, sustainable development.

JEL Codes: J28, L20, Q01.

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1. Introduction

The sustainable development of the enterprise assumes, among other things, ensuring the safety of employees and their good psychophysical condition at work. There may be a number of hazards in companies that may affect the functioning of employees, their health and life. This may manifest itself in the occurrence of accidents at work, the consequences of which are felt by both the employee (permanent damage to health, moral or material losses) and the employer (e.g., in terms of failure to meet legal requirements or the existence of gaps in ensuring safety in the company).

To minimize the effects of accidents, companies are looking for ways to prevent their occurrence. One such method is safety communication, the purpose of which is to inform employees about hazards, provide information on the results of implementing corrective and preventive actions, and also provide messages on statistics related to dangerous incidents that have occurred in the company.

In conducting such communication, it is extremely important to select appropriate communication channels (adapted to the capabilities of the company and the main group of recipients) as well as to determine the frequency of messages, their content, and the method of promoting safe behaviors at work (Hofmann *et. al.*, 2017; ISO 45001:2018).

The use of an appropriate communication system can also support (in addition to informing about physical hazards) the achievement of employee well-being (ISO 45003:2021), which is manifested in greater job satisfaction, making fewer mistakes, and building a positive atmosphere of openness to employee problems, which are often related to safety.

Noticing a research gap in the field of safety communication in Polish companies, the subject of this article is the analysis of communication cases in selected companies, taking into account the indication of barriers to such communication and proposals for improving this process. This is particularly important in the company's sustainable development strategy, one of the goals of which is to ensure employee safety.

2. Literature Review - Safety Communication as an Element of Sustainable Development of the Company

The social aspect of considering the idea of sustainable development assumes ensuring appropriate conditions for the functioning of a person in the work environment. It assumes their involvement in the development of the enterprise and creating opportunities for personal development while ensuring active participation in building solidarity of the employee group and eliminating intergenerational differences (Silvestrea and Țîrcă, 2019; Butlewski and Czernecka, 2024).

The 2030 Agenda for Sustainable Development (2030 Agenda), presented by the United Nations in 2015, presented 17 main goals of sustainable development, which should be implemented at the global level. Among these goals, it was indicated to ensure a healthy life for all people of all ages and to promote prosperity and promotion of stable, sustainable, and inclusive economic growth, full and productive employment and decent work for all people (Chamsa and García-Blandón, 2019; Weiland *et al.*, 2021).

Undoubtedly, implementing these goals will be supported by companies employing employees, which may be a challenge in combination with the changing market situation and the growing requirements of customers and other stakeholders. A key factor in this respect may be communication, which is important in the sustainable development strategy and allows for the involvement of all organisation participants in the detailed tasks assigned to them.

Communication can concern various areas of the organisation, but it is particularly important in the area of safety. Its proper conduct is crucial in ensuring working conditions that will not lead to a deterioration of the health of employees and will allow them to develop and achieve a sense of well-being at work (Pererva *et al.*, 2021; Genç, 2017).

It is indicated that in the developing trend of Industry 4.0 (and also 5.0) communication is an important element of sustainable development of enterprises. It is important in production, maintenance, or building interpersonal relations, but it is also extremely important in the field of safety. In this context, it includes information about threats, statistics, and corrective actions taken after dangerous events in order to build employee awareness and safety culture in the organisation (Badria *et al.*, 2018).

Appropriate communication is also intended to promote safe behavior of employees, among others, by indicating acceptable attitudes and elements of safety procedures. In Poland, this is important due to the fact that over 40% of accidents are caused by human behavior (non-compliance with health and safety regulations, failure to use protective measures, recklessness, and routine during work) (Polish Central Statistical Office, 2023).

It can be noticed that scientific studies indicate the great importance of the involvement of superiors in the process of communication in the field of safety (Fruhen *et al.*, 2022). The perception of safety problems by superiors translates into the behavior of employees and the prioritization of safety for them. The exchange of information on statistics and accidents at work and threats can take place at meetings between superiors and employees (e.g., 5-minute safety talk) through a developed system of reporting dangers or conversations with the superior during the performance of professional duties (Hofmann *et al.*, 2017; Curcuruto and Griffin, 2023; Lingard *et al.*, 2019).

A very important factor in achieving effective communication in the field of safety is the selection of appropriate communication channels (Chirico *et al.*, 2023). This selection depends on many factors, including the group of recipients of messages, the technological capabilities of the company, the organisational culture, the organisational structure, or the profile and business orientation of the company (Zara *et al.*, 2023).

For this reason, these factors should be taken into account when establishing a communication strategy (also as a part of a sustainable strategy), both in terms of current communication and long-term planning. The use of modern technologies in communication regarding safety is important. This facilitates the efficient transmission of messages, but also increases their attractiveness in the eyes of recipients. Among others, the following forms of communication regarding safety can be indicated (Wanga *et al.*, 2019; Digmayer and Jakobs, 2022; Schwerha *et al.*, 2020):

- analysis of statistics related to accidents and near misses,
- informational and preventive messages in the form of posters or graphics,
- marking dangerous places,
- direct communication (safety talks),
- organisation of competitions involving employees in safety issues,
- communication of the results of health and safety audits, corrective actions after accidents, and results of occupational risk assessment.

The trend of using AI in communication regarding safety is noticeable (Fisher *et. al.*, 2023). It is possible to estimate and communicate the risk to humans related to work processes (Aksoy *et. al.*, 2023) and to analyze historical accident data in order to prevent them in the future through appropriate communication (Fu and Han, 2022).

The messages generated using AI are short, concise and interesting to the recipient, thus encouraging employees to familiarize themselves with them. AI can also be used to communicate safety in new workplaces, e.g., by using a digital twin (Pracucci, 2024).

3. Research Methodology

The following research questions were adopted in the undertaken research: (1) Does appropriate communication regarding occupational health and safety help prevent accidents at work?; (2) Is it possible to determine what steps should be taken to effectively communicate safety?; (3) Can safety communication support the implementation of an organisation's sustainable development strategy?

As part of the research undertaken, seven cases of safety communication in large Polish enterprises (which have a defined sustainable development policy in terms of ensuring employee safety) were analyzed. The study consisted of two parts -

observations of the provision of health and safety communication and conversations with employees of health and safety departments.

Then, the effectiveness of the communication system was analyzed and it was supplemented with an indication of barriers to communicating safety-related issues. In the part related to proposing actions that can increase the effectiveness of information in the field of safety, recommendations for the implementation of model of safety communication were presented (based on research results but also on scientific literature in this area).

4. Research Results

In the first part of the research undertaken, the forms of communication in the field of safety undertaken in the surveyed enterprises were identified. Table 1 presents a summary of the analysis of the forms of communication used.

Table 1. *Forms of communication in the field of safety used in the surveyed enterprises*

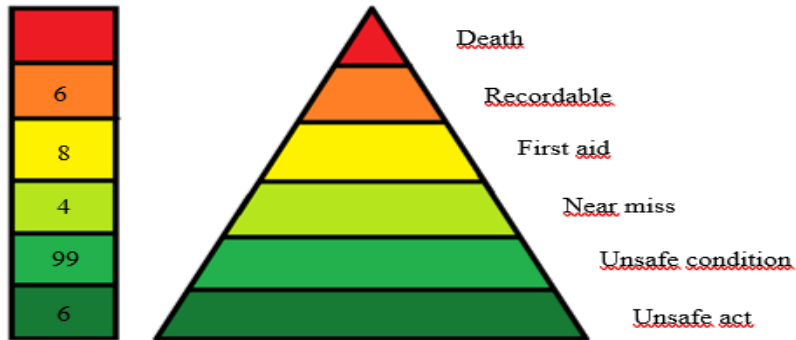
Lp	Form of communication	Company						
		1	2	3	4	5	6	7
1	Communicating accident statistics	x		x	x	x		
2	Markings of dangerous places (other than required by law)	x	x	x	x	x	x	x
3	Regular conversations with employees about safety at work		x	x				x
4	Information posters about desired behaviors		x		x	x		
5	Information posters on the effects of existing threats at work		x		x	x		
6	Communicating current health and safety matters, e.g., via e-mail, TV in the company	x		x	x	x		x
7	Informing employees about the results of occupational health and safety inspections	x	x	x	x	x	x	x
8	Conversations between employees and their superiors about safety		x			x	x	
9	Employee participation in health and safety and ergonomics analysis	x		x	x	x	x	
10	Communicating accidents at work and actions taken to avoid them in the future	x		x			x	

Source: *Author's own elaboration.*

Figures 1 and 2 provide examples of graphical safety communication in the surveyed

enterprises.

Figure 1. An example of communication of accidents and dangerous events in a selected enterprise



Source: Company's materials.

Figure 2. Example of safety instructions form

Process or workplace description:				Hazards			
location, activities performed, drawing of the workplace				technical	☐	electrical	☐
				work	☐	ergonomic	☐
				environment			
				chemical	☐	others	☐
				Safety markings			
Description of work while performing activities				Personal protective equipment			
no.	Key activity performed	Tools/machines	Important notes				
1							
2							
3							
4							
5							
6							

Source: Company's materials.

Figure 1 shows an example of a simple, graphical presentation of statistics on accidents and potentially dangerous events. The event categories are divided into 6 groups:

- (1) fatal accidents (deaths),
- (2) recordable accidents - events often associated with damage to health and employee absence from work,
- (3) first aids - events requiring first aid to the injured party at the scene,
- (4) near misses - events that could have led to damage to the employee's health, but it did not happen,
- (5) unsafe working conditions - places where improvements and corrective actions were taken to prevent accidents,
- (6) unsafe behaviours - recorded behaviours of employees that were inconsistent with the legal provisions on health and safety and the company's internal regulations.

Figure 2 shows an example of a safety sheet, in which it is possible to indicate the most important information about the workplace in a form accessible to the recipient. The sheet contains basic information about the location and organisation of the workplace, safety signs, main threats to life and health, required personal protective equipment (these can be indicated using a pictogram). The sheet is placed at the workplace in an accessible and visible location for the employee.

In the second part of the research, interviews were conducted with representatives of occupational health and safety departments, during which the importance of communication in the field of safety and barriers in conducting such communication were discussed. Regarding the importance of proper safety communication, health and safety experts made the following comments:

- informing employees about accident statistics promotes their awareness of a given threat (no accidents of the same type are repeated),
- employees at different organisational levels require different forms of communication (higher-level employees prefer statistics and communication of specific goals, lower-level employees - short messages),
- communication should be regular (e.g., statistics once a month, unexpected events immediately),
- it is worth taking into account the participation of employees in creating the content of health and safety-related messages,
- it is also advisable to engage a communications specialist (this helps in the appropriate selection of communication channels and ensuring regularity of messages).

Occupational health and safety department employees indicated the following barriers to communication in the field of occupational health and safety:

- costs of information posters (especially if they are different projects required

- in a given department),
- a multitude of information to be provided to employees in the organisation, which is why information about health and safety is often omitted,
- the need to select appropriate content to interest the employee,
- the need to provide regular content,
- lack of involvement of employees' superiors in communication for health and safety.

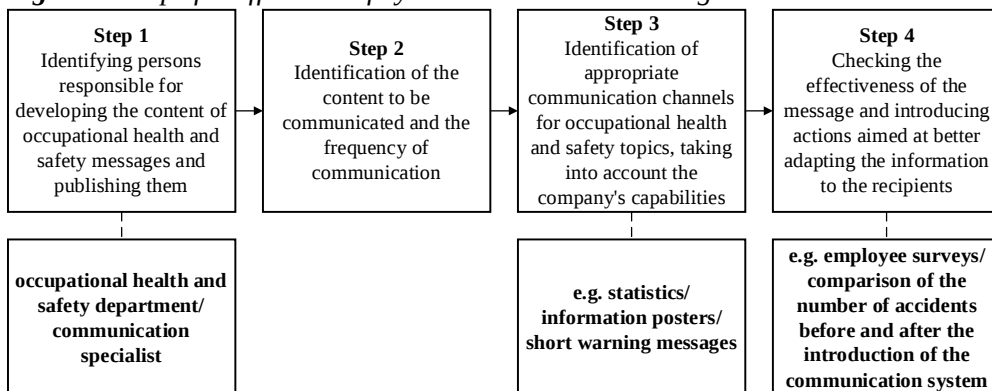
In order to overcome the identified barriers to effective safety communication, this aspect should be taken into account in the planning of the company's activities (also in the sustainable strategy, in the budget and appointment of people involved in the process).

5. Discussion

Analyzing the data obtained in the surveyed companies and interviews with representatives of health and safety departments, it can be stated that safety communication is a major challenge for modern companies that currently operate in dynamically changing internal and external conditions.

This brings with it changes in the risk that may appear at the workplace, so it is necessary to look for a way to increase the effectiveness of accident and safe behavior communication. The application of the steps indicated in Fig. 3, which can be implemented in the company's sustainable strategy, may be helpful in this process.

Figure 3. Steps for effective safety communication in an organisation



Source: Author's own elaboration.

In the case of the proposed Steps 1-3, it is suggested to use the who-what-how-when sequence (determining who will communicate, what will be communicated and how the communication will take place) (ISO 45001). Determining these aspects will allow for comprehensive management of the communication process, with an

indication of responsibility for individual stages. In safety communication, it is important to take into account the above-mentioned Step 4 - checking the effectiveness of the adopted communication strategy. This allows for modification of the forms of communication used in the organisation in order to reach the largest possible audience. It may be problematic to determine how to conduct such verification. In this case, it may be helpful to involve all employees, thoroughly analyze the number of dangerous events compared to, for example, the previous year or track the number of views of messages sent to employees.

6. Limitation of the Study

The study is the beginning of considerations on the subject of systematizing safety communication in the scope of sustainable organisation development. Therefore, undoubtedly, the limitation of the study is the number of examined cases and considering them in relation to Polish enterprises only. Further development of the study should proceed towards the internationalisation of research and development of the proposed model on specific implementation examples.

7. Conclusions

Safety communication is undoubtedly a part of sustainable strategy and a factor that helps to inform about hazards and safety measures that can be used to avoid accidents at work. The selection of communication channels and their effective use may be a key element in ensuring high safety level, which is the goal of almost every enterprise. This is especially important in the case of preventing accidents at work, the effects of which may have a multidimensional impact on the functioning of the enterprise.

The undertaken research may be the beginning of a comprehensive analysis of the importance of safety communication in enterprises in the context of sustainable development. As the analysis of the literature shows, this is undoubtedly a current problem in today's organisations, which face many development challenges that may pose threats to employees (including the need to learn new work processes and procedures).

Safety communication should be adapted to these changes, as well as to the group of recipients (often the same message must be conveyed through different communication channels in order to be best used by employees at a given organisational level). Enterprises must be aware of the barriers to ensuring safety communication. They may be caused by limited organisational and technological resources, but may also result from assigning higher priority to other messages.

Nevertheless, the benefits of conducting effective safety communication (related to reducing dangerous behaviours or protecting employee health) in the context of sustainable development should be a sufficient argument for seeking ways to

improve this process.

The undertaken research can be developed towards examining a larger number of cases of companies (different industries and with a diverse team of employees). Important information can also be provided by conducting surveys and interviews not only among employees of health and safety departments but also all employees of the organisations studied. This can provide an insight into what forms of communication are preferred and noticed by employees to whom messages about safety are addressed.

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