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# ANALYSIS OF CONDITIONS FOR SUPPORTING EMPLOYEE SAFETY DURING THE COVID-19 PANDEMIC IN MANUFACTURING COMPANIES IN POLAND

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## ABSTRACT

The COVID-19 pandemic has significantly and permanently changed modern life in the private and professional dimensions, where numerous consequences of the virus have affected employees and employers. Both groups were forced to implement numerous changes to ensure the work process's safety. The multi-dimensionality of this concept and, consequently, the multi-directionality of its potential and required actions taken by companies have become the basis for a theoretical and practical analysis of conditions for supporting broadly understood employee safety during the COVID-19 pandemic in selected production companies in Poland. The pilot studies' results indicated the leading direction and scope of actions taken so far, their main types, stimulating factors and barriers, perceived benefits and future trends. The article's conclusions may form the basis for universal good practices supporting the safety of employees in the production sector, which, regardless of the duration of the pandemic, may be used as effective and efficient improvement measures in generating measurable benefits for all stakeholders.

## KEY WORDS

**safety management, COVID-19 pandemic, manufacturing companies**

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## INTRODUCTION

The word “pandemic” has been constantly used by almost everybody for the past two years. Many changes were implemented and affected almost all aspects of life and every dimension, regardless of dif-

ferentiating factors. Their strength, direction or required expenditures varied depending on the area and importance. Multi-directional analyses of the pandemic and its consequences dominated the latest local and international publications. However, research conclusions are still required regarding the specificity of geographical and socio-economic con-

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ditions of the ongoing changes in the B2C and B2B markets, where enterprises undertook numerous actions forced by the changed reality. Some measures were a consequence of various mandatory regulations, while others were undertaken voluntarily as a result of factors deemed important by individual entities. It should also be emphasised that the pandemic contributed to the transformation of long-term business strategies or current policies and became a trigger for a multi-dimensional transformation of behaviour and attitudes among all stakeholders directly and indirectly involved in the activities of enterprises.

The outlined issues contributed to a theoretical and practical analysis of employee safety in the pandemic context and the real associated threats. The overarching research objective was to identify activities contributing to increased employee safety in the production sector. Specific objectives aimed to identify the scope of activities, the stimulating and inhibiting factors and the achieved effects. The conclusions defined further directions in the prevention of possible external and internal threats in Polish production companies, which are also preliminary assumptions for further in-depth research.

The first section of the article presents an overview of the latest international literature on the pandemic implications for the manufacturing industry with a particular emphasis on conditions for workplace changes, which were implemented due to mandatory guidelines or undertaken voluntarily. This part of the article also refers to the new reality's impact on Polish businesses. A reference was made to the results of the latest nationwide research verifying the attitudes of industrial enterprises in the face of perceived threats. The second section explains the assumptions of a methodological approach used in this study. The following section discusses the results obtained and their analysis, and the final section presents the main research conclusions.

## 1. LITERATURE REVIEW

### 1.1. COVID-19 AND THE MANUFACTURING INDUSTRY

The sudden pandemic outbreak shook the world and upset the social and economic balance. Despite the ability to manage risk and potential crises, which had been improved for many years, enterprises were not ready for such a sudden and intense change in

their operation and the conditions of the worst recession since World War II. Interrupted supply chains, mainly as a result of the situation in China as the main sourcing site for many manufacturing industries, mandatory lockdowns and diametrical changes in purchasing behaviour, negatively impacted almost all sectors (Xu et al., 2020). Uncertainty and fear dominated the implemented global and local processes. The results of the conducted analyses indicate that the greatest volatility and destabilisation affected the automotive industry, the energy equipment and services industry, the oil, gas and consumable fuels industries and the airline industry. Entities related to distribution, healthcare, thrifts and mortgage finance are also uncertain about their future (Szczygielski et al., 2022). The scale of the consequences was evidenced by significant drops in such indicators as the gross domestic product by as much as 3.4 % in 2020, the global trade by about 5 % or even the Dow Jones Industrial Average Index (DJIA) and other market indices that lost one-third of their value between 2020 and 2022 (Congressional Research Service, 2021).

However, special attention should be paid to manufacturing entities, which have shown a greater susceptibility to disturbances in system continuity compared to the service sector, which contributed to, e.g., decreases in foreign direct investment (FDI) or total factor productivity (TFP) in 2020–2021. Further negative values are predicted in the near future, especially in the context of the raging inflation or the war in Ukraine. It should be noted, however, that the strength of the pandemic impact on the productivity of enterprises depends on many factors, so the declines are not and will not be uniform for the entire manufacturing industry (Bloom et al., 2020). Small and medium enterprises (SMEs) have experienced instant adverse effects due to logistical issues, reduced capacity utilisation and demand-side effects (Jurgensen et al., 2020). The results of the conducted research clearly showed that the long shutdown period would have a negative impact on the functioning of SMEs and, in many cases, will lead to bankruptcy due to their limited working capital reserve and simultaneous increase in operating costs with reduced demand (Cai & Luo, 2020).

Undoubtedly, the pandemic has had numerous implications for the manufacturing industry at almost all stages of the production cycle and often resulted in the need to switch exclusively to online sales, which forced many entities to revise their inventory plans to ensure adequate stock coverage for customers

(Ardolino et al., 2022). Some entities were even forced to reorient their core production towards goods that were particularly desirable during the pandemic due to the significantly changed market structure. Such a transformation was successful only for some companies that were characterised by a high level of flexibility and the ability to quickly adapt to new customer needs and expectations, both in the B2C and B2B markets. Competencies in the use of digital technologies turned out to be key, which significantly facilitated the processes (Malik et al., 2020).

The production sector is crucial for the state of the economy; therefore, the losses incurred by the pandemic prompted production entities to implement numerous changes to minimise similar risks in the future. In addition to the diversification of suppliers, particularly in terms of their location and changes in the scope of the offer, great emphasis was placed on the verification of the existing strategic assumptions. Transformation towards an online business model, often as part of partnerships undertaken to strengthen the position, requires multi-dimensional changes from production companies, which, under the influence of a catalyst such as the COVID-19 pandemic, can be considered on three basic levels: organisational, processual and technological. The first highlighted variable concerns the long-term perspective in terms of the planned mission or vision under conditions of limited possibilities. In addition to obvious changes for remote work and the required safety restrictions, special emphasis should be placed on building awareness of the necessary changes and improving employee attitudes. Such surprising situations are often unforeseen and generate additional risk for enterprises, mainly in terms of quality and the disruption of internal and external relations. Therefore, maintaining mutually beneficial relations with customers also required significant changes, e.g., in the field of pre- and post-sales communication or modification of distribution channels and promotion of products. The process includes analyses of the pandemic impact on production management in individual industries, characterised by varying degrees of susceptibility to sudden changes in the business reality. In addition to process flexibility, supported by a high level of staff adaptability, a good, recommended practice is to change the logistics strategy towards reshoring (European Parliament, 2021). The process context is closely related to the technological context, which includes issues related to investments in innovative solutions supporting

strategic assumptions. However, it should be emphasised that the specificity of the manufacturing industry often prevents a complete transition to the remote mode. Thus, e.g., the automation of processes or the use of autonomous machines does not solve all the problems arising from the pandemic.

The general changes in the realities of the production industry have forced smart and agile planning and process reengineering, which will probably be a permanent action to strengthen the resilience and transparency of supply chains even after the end of the pandemic (Kamal, 2020). Many manufacturers believe that the pandemic has only accelerated the inevitable digitisation processes, including in the field of forced employee education for better synchronisation on man-machine lines (Ardolino et al., 2022). It should also be noted that the transformation of modern production has also contributed to positive phenomena, such as reduced negative environmental effects resulting from declined transportation (Kumara et al., 2020) or digitised processes, including administrative, in support of production.

Based on numerous analyses regarding the operating conditions of production entities during the pandemic, several practical recommendations have been developed to ensure the pandemic and post-pandemic capabilities and operations. First, adjusting the toolboxes in the direction of ensuring a higher level of resilience and skills of pivoting and repurposing. In addition, the need to build organisational flexibility on multiple activity levels using digital technologies, identifying and dedicating resources for repurposing and rapid decision-making skills (Okorie et al., 2020).

In numerous rankings regarding the greatest potential for regaining the position of the manufacturing sector, specialists point to the economies of China and the USA as leaders. However, it should be noted that in Europe, Poland also has good ratings due to its favourable geographical location and relatively low labour costs with a qualified workforce.

## 1.2. COVID AND WORKPLACE SAFETY

The pandemic outbreak also had a measurable impact on the labour market. According to the International Labour Organization, full or partial lockdown measures affected almost 2.7 billion employees or around 81 % of the world's workforce. Now, approximately 38 % of the global workforce is facing a high risk of job loss or massive workforce displace-

ment as long-term consequences of changes in the operating conditions of business entities (International Labour Organization, 2020).

The need to comply with epidemic restrictions also significantly changed work rules. Modified existing guidelines and physical reorganisation of the workplace was not an easy process, although necessary for the continued operations of entities. Changes in the work culture supported by the implementation of modern ICT solutions have enabled many production entities to safely implement processes while maintaining similar and even higher resource efficiency than in traditional, stationary working conditions. Based on research results, this is also due to convenience, autonomy and the high level of psychosocial safety and well-being experienced by some people working from home (Mehta, 2021). However, safety in production enterprises is not only about ensuring social distancing, mandatory mask-wearing or hand disinfection but also different other measures that employers have been systematically obliged to implement. As the observation of economic practice shows, numerous additional actions were undertaken voluntarily by workplaces to protect resources against any undesirable disturbances. McKinsey's Organisation Practice has developed a set of good practices for employers to optimise the process of necessary changes. The recommendations concern areas related to ensuring safety and security, investing in trusting relationships, creating and maintaining a culture that focuses on inclusion, individuality and social harmony, and finally, establishing and linking employees to a clear purpose (McKinsey & Company, 2020).

The obligations of employers are a common dimension of analyses; however, the consequences for the other party to the employment relationship should also be considered. The pandemic, apart from fear for the safety of themselves and their loved ones, has caused many people to feel uncertain about further employment and its conditions, which, in some cases, may have even resulted in a decrease in the work quality and permanent changes in organisational citizenship behaviour, OCB (Vu et al., 2022). From the perspective of employees, the new areas of potential threat sources resulting from the changes include work-family interface, physical presence privilege, anti-foreigners (Asian) racism and discrimination, high health risks, extreme stress, including economic, presenteeism and supervisor support – safety leadership (Sinclair et al., 2020).

In the face of multi-dimensional threats, the key ability to survive in untypical conditions for the

economy requires considerable awareness and involvement of all parties involved in the implementation of production processes. Bearing this fact in mind, many entities implement workplace safety management practices (WSPs) guidelines in practice. They contain a whole spectrum of recommended actions in the areas of strategies, policies, procedures, measures and activities that refer to employee health and safety in the organisation. Developing (creating) a safety climate requires a holistic approach and implementation of essential WSP, i.e., practices that are covered by regulatory mandates and “discretionary” WSP”, practices perceived by employees as important but not mandated (Subramonya et al., 2022). According to the ILO, during and after the pandemic, employers and employees should focus on the following four WSP dimensions: management's commitment to safety, safety training, safety rules and procedures, and employee involvement to minimise the negative effects on social and economic dimensions (International Labour Organization, 2020). In addition, various system tools are recommended, such as the Total Worker Health approach, which integrates worker safety, health and well-being into the organisation by implementing key aspects of focusing on working conditions, utilising participatory methods, employing comprehensive and collaborative strategies, commitment from leaders, adhering to ethical and legal standards and data-driven change (Dennerlein et al., 2020). As well as numerous concepts optimising risk management actions for COVID-19 in the workplace, such as industrial hygiene decision-making or occupational and environmental health and safety frameworks (Zisook et al., 2020), numerous normative documents are also available, developed by such international organisations as the World Health Organization, the European Commission, the European Agency for Safety and Health at Work or the International Labour Organization. A general summary of guidelines of different international organisations on maintaining safety in the workplace under COVID-19 conditions is presented in Table 1.

To sum up, the pandemic has irrevocably changed the current understanding and perception of the importance of workplace and work culture. The new work standards are focused on ensuring the safety using a different formula than before. Remote work based on a flexible working schedule, regardless of whether and when the pandemic subsides, will remain in some organisations permanently as a more efficient and more economical form of employment.

Tab. 1. Main recommendations of international organisations in the field of safety in the workplace

RECOMMENDED ACTIONS	WHO (2020)	OSHA (2021)	ILO (2020)	IFMA (2020)	MSA/MC/GSC (2020)
Enforcing social distancing (information boards, visual inspection, employee self-control)	X	X	X	X	X
Regular hand sanitisation	X	X	X	X	X
The widespread availability of disinfectants	X	X	X	X	X
Nose and mouth covers	X	X	X		X
Safety gloves at work		X		X	X
Disinfection procedures in workplaces, sanitising common surfaces	X	X	X	X	X
Physical barriers between workstations	X	X			X
Employee training on pandemic procedures	X		X	X	X
Ventilation and filtration of indoor spaces	X	X	X	X	X
Remote work, if possible	X	X		X	X
Limiting the number of persons in the room	X	X	X		X
Business continuity plans			X	X	
Flexible work arrangements			X		X

Source: (Kosieradzka et al., 2022).

In addition, current observation of economic practice already shows that as restrictions are relaxed, some companies will implement innovative solutions in the field of social distancing, including a four-day working day or individual days a week with the so-called alternative forms of work, carried out through videoconferencing platforms. However, this emphasis on flexibility applies to many issues related to the work performed, ranging from schedules to location and even dress code issues (Agba et al., 2020). It should also be mentioned that this direction of changes poses threats, e.g., in terms of excessive dehumanisation of the organisation and, consequently, the lack of a sense of identity with it and other employees, as the workplace is not only the physical dimension of the processes carried out but above all a common space for building relationships as well as self-improvement and achieving one's own goals (Ancillo et al., 2020). Therefore, all redesign of workplace procedures must be carried out reasonably and considering the well-being and balance of main stakeholders, primarily employers and employees.

### 1.3. COVID-19 AND THE POLISH ECONOMY

The COVID-19 pandemic has also shaken the labour market in Poland. Despite the research results showing less severe negative economic effects of the coronavirus in this country compared to other Euro-

pean countries, the GDP in Poland decreased by 3.5 % in 2020, with the OECD average of 5.5 % (OECD, 2020). The Polish industry, particularly large entities unrelated to the construction industry, which was most affected by the crisis, also performed relatively well, with no significant economic downturns during the first pandemic year (GUS, 2022). Also, declarative data for the second year of the 2021 pandemic indicate that it was a successful time for Polish entrepreneurs because the profitability of companies was, on average, much higher than before. This does not mean that in practice, Polish production entities, in particular those representing micro, small and medium-sized businesses, did not have to face various challenges, such as maintaining employment or rising raw material prices and operating costs, further disruptions in supply chains and constant changes in the tax system, and sometimes even the need to change a business profile. Some of them were even forced to use commercial financial support instruments (PWC, 2020). The end of the pandemic does not change the cautious prognosis of the Polish industry regarding investment plans. The ongoing war in Ukraine and galloping inflation are among the post-pandemic events causing significant volatility and uncertainty regarding the conditions for the continued operation of Polish enterprises (EY, 2022).

Referring to the situation of workplace safety, it is necessary to quote the key government actions in this

area. First, the Act on special solutions related to the prevention, counteracting and combating of COVID-19, other infectious diseases and crisis situations caused by them was passed in March 2020. It was the first official tool regulating the rules for supporting entrepreneurs, particularly in the field of job protection and other effects of forced economic downtime. In addition, entrepreneurs gained access to various recommendations, aid packages and economic initiatives aimed at minimising any negative effects of the coronavirus, particularly in terms of the need to change social, health and economic behaviour. In terms of conditions for the functioning of workplaces, enterprises had to adapt to many new guidelines contained in newly developed sanitary standards. Obligatory access to disinfectants and other agents ensuring personal protection and the need to keep a distance of 1.5 metres are just examples of employers' obligations in the discussed context (Józefowicz & Smolińska, 2020).

The results of nationwide research conducted in 2020 on a sample of 646 economic entities, including 264 industrial enterprises, indicated the main directions of enterprises' activities in the event of emerging threats. All surveyed companies declared knowledge of at least one sanitary procedure minimising the risk of infection in the workplace. As many as 96 % of the surveyed companies have implemented sanitary procedures and preventive measures against COVID-19. More than three-quarters of the respondents introduced sanitary procedures for employees or their customers. In turn, 29 % of companies introduced more flexible work organisation/working time changes (PARP, 2020). Other national research conducted in 2021 on a sample of 600 manufacturing enterprises only made it possible to determine specific formal, legal, technical and organisational solutions implemented during the pandemic. In the course of the analyses, differences were demonstrated in the scope of measures used depending on the industry or size of the entity. The food industry was the best in terms of the number of safety measures applied, probably mainly due to the high sensitivity of this sector and, thus, the earlier advancement in the area of occupational health and safety (Kosieradzka et al., 2022).

The COVID-19 pandemic consequences can be considered in the internal and external context of entities, e.g., related to maintaining the continuity of the supply chain. However, regardless of the direction of the threat impact analysis on the processes carried out by enterprises, the most important issue seems to

be the protection and safety of employees, who are an essential element shaping the adaptive potential of each company regardless of profile or size.

## 2. CONDITIONS FOR SUPPORTING EMPLOYEE SAFETY DURING THE COVID-19 PANDEMIC IN PRODUCTION COMPANIES IN POLAND: RESULTS OF OWN RESEARCH

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### 2.1. RESEARCH METHODOLOGY

The theoretical analysis conclusions on the issue became a reason for practical verification of the pro-safety conditions in Polish production entities during the pandemic. The purpose of the conducted research was to identify the multi-dimensional activities supporting employee safety and the specific research questions addressing such issues as scope, forms, benefits, barriers and directions of planned further initiatives within the framework of the analysed topic. Based on consultations with health and safety specialists from manufacturing companies, it was decided to use an online survey questionnaire. In addition to the received suggestions, the choice of this tool was also influenced by the numerous advantages of online surveys over traditional ones. First, it is time and cost savings and greater convenience and flexibility for respondents.

Considering the specifics of the respondents and the fact that the survey was preliminary for the planned in-depth research, the questionnaire included seven closed questions with a choice of several answer options, and for some questions, an additional option of entering an answer was provided. The structure of the questions resulted from research objectives, and answer options resulted from previous analyses, consultations with practitioners and author's own experience. The questions were primarily sent to top and middle management staff (almost 88 % of respondents) and employees responsible for/involvement in safety issues in the organisation. The study was conducted in June 2022. The purposive sampling was primarily guided by the profile of enterprises and the high probability of return. A survey response rate of 70 % was achieved (out of 80 forms sent, 56 were returned filled). The survey was opened, maintaining the confidentiality of provided answers.

Tab. 2. Metrics of the respondents

VARIABLES		NUMBER OF COMPANIES
<b>INDUSTRY</b>	Chemical	5
	Clothing and textile	2
	Construction	1
	Electromechanical	16
	Food	4
	Metal	20
	Others	3
<b>MARKET SERVED</b>	B2C	2
	B2B	46
	B2C and B2B	3
<b>SIZE (NUMBER OF EMPLOYEES)</b>	To 10	7
	11–50	35
	51–250	6
	251–500	2
	Over 500	1
<b>RANGE OF ACTIVITY</b>	Local	6
	National	34
	International	11
<b>CAPITAL HELD</b>	Polish only	42
	Foreign only	6
	Joint venture	3
<b>RESPONDENT'S POSITION</b>	Top management	38
	Middle management	7
	Specialist	4
	Others	2

Source: elaborated by the author based on own research Conditions for supporting the safety of employees during the Covid-19 pandemic in production companies in Poland, June 2022.

In total, properly given and complete responses were received from 51 production entities operating throughout Poland. Respondents represented the following industries: electromechanical, metal, chemical, construction, food and textile. Almost 90 % of respondents targeted their products to the B2B market, and the rest aimed at the B2C market or both. The surveyed sample was dominated by medium-sized and large companies (80 % of responses). The research sample structure is shown in Table 2, including the represented sector, the targeted market, the number of employees, the spatial scope of influence, the capital and respondent positions.

### 3. RESULTS AND DISCUSSION

As a result of the pandemic outbreak, all surveyed companies took additional measures to ensure occu-

pational health and safety. The scope of implemented activities concerned the entire organisation among as many as 96 % of respondents. Other indications concerned the company's key departments, such as production or logistic support. This proves a high level of awareness and recognition of the importance of human resources for the ability of companies to survive under conditions of uncertainty and risk. This is probably an optimistic prognosis in the context of the necessary changes in employers' attitudes towards their employees, and not only in the event of threats to life and health or the likelihood of bankruptcy. As for the variety of forms of actions taken, these were primarily systemic changes in the way/philosophy of work (70 % of responses), as well as related modifications in the organisational structure (41 % of responses), probably aimed at facilitating and accelerating, e.g., decision-making processes in structures that are more flexible and dynamic, and, at the same

time, simplified as much as possible. The obtained results confirm the main directions of changes in enterprises, which are very similar to other countries affected by the pandemic (Pereira et al., 2021). Many companies have invested in broadly understood infrastructure, including, above all, in the area of IT tools (41 % of responses), which were supposed to facilitate, accelerate and frequently even enable work. In addition, almost one-fifth of the respondents purchased additional safety equipment for their employees, e.g., mobile robots for interior disinfection, detection gates with nozzles for spraying outer clothing or even steam cleaners on production lines. As part of building awareness of the need for change, many entities intensified their internal communication processes (40 %) and offered numerous workshops to familiarise themselves with the specifics of remote work and the conditions of possible isolation (35 %), as well as training, both in terms of possible threats and ways to minimise them (25 %) as well as modification of stakeholders relations, particularly with external customers (16 % of responses). Such activities, as shown by the results of numerous studies, are absolutely necessary if entities want to stay in the market, despite unfavourable conditions full of customer behaviour perturbations (Sobotkiewicz & Waniowski, 2022). Some entities (approx. 16 %) extended the medical packages offered to their employees, e.g., by a consulting psychologist. Therefore, as the discussed research results indicate, employers have implemented various optional measures that increase the broadly understood safety of

their employees. Figure 1 shows the number of indications for individual answers.

When asked what their main stimulants were, over 70 % of respondents mentioned the concern for the existence of the company, associated with the requirement to continue key operational processes (41 %) and the desire to maintain mutually beneficial relationships with customers and other interested parties (31 %). Care for employees (37 %) and external factors, primarily including pressure from customers and other stakeholders (25 %) and actions of competitors (20 %), were important reasons as well. Interestingly, every fifth surveyed company implemented mainly these non-mandatory safety measures for purely marketing reasons to improve its image as a responsible employer (20 %). Expectations of employees, guidelines of normative documents or support from external sources, e.g., as part of financial government subsidies or free protection measures, were the reasons that guided about 10 % of the surveyed producers. Figure 2 shows the number of indications for possible variables.

The barriers encountered by the respondents were primarily related to the costs they had to incur when implementing the described measures (78 % of responses). In addition, a very high rate of resistance/lack of conviction among employees was recorded (67 %), which is surprising in the face of the pandemic and the declared significant fears for the life and health of oneself and loved ones. However, this result confirms the common negation attitude for all innovative activities implemented in companies, which

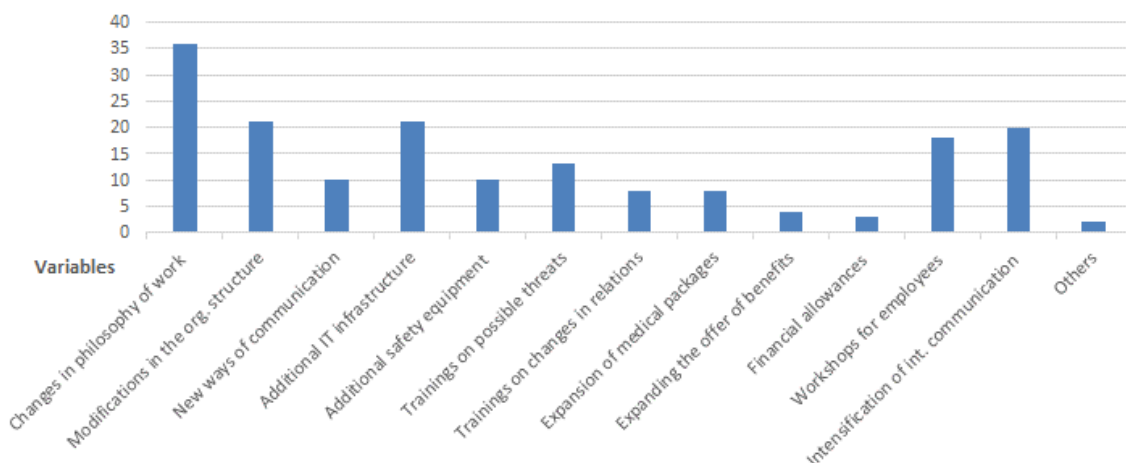


Fig. 1. Actions implemented to improve employee safety

Source: elaborated by the author based on own research Conditions for supporting the safety of employees during the Covid-19 pandemic in production companies in Poland, June 2022.



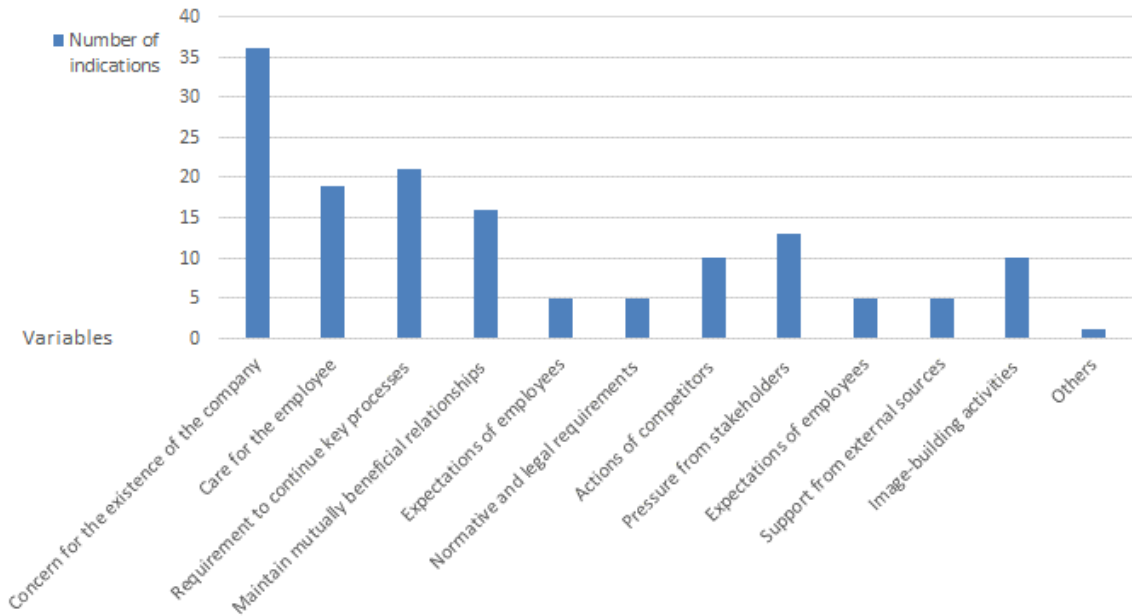


Fig. 2. Main factors affecting actions to improve employee safety

Source: elaborated by the author based on own research Conditions for supporting the safety of employees during the Covid-19 pandemic in production companies in Poland, June 2022.

also applies to the area of safety at work. The issue of changing attitudes towards security is often analysed in international literature. However, in the context of pandemic threats, it seems particularly important and interesting (Faiqa et al., 2022). Also, the obtained

result confirms the importance of the skilful, conscientious and systemic building of a safety culture in companies. The specificity of the implemented processes (35 %) and excessive bureaucracy (16 %) are often perceived as limitations. Other encountered

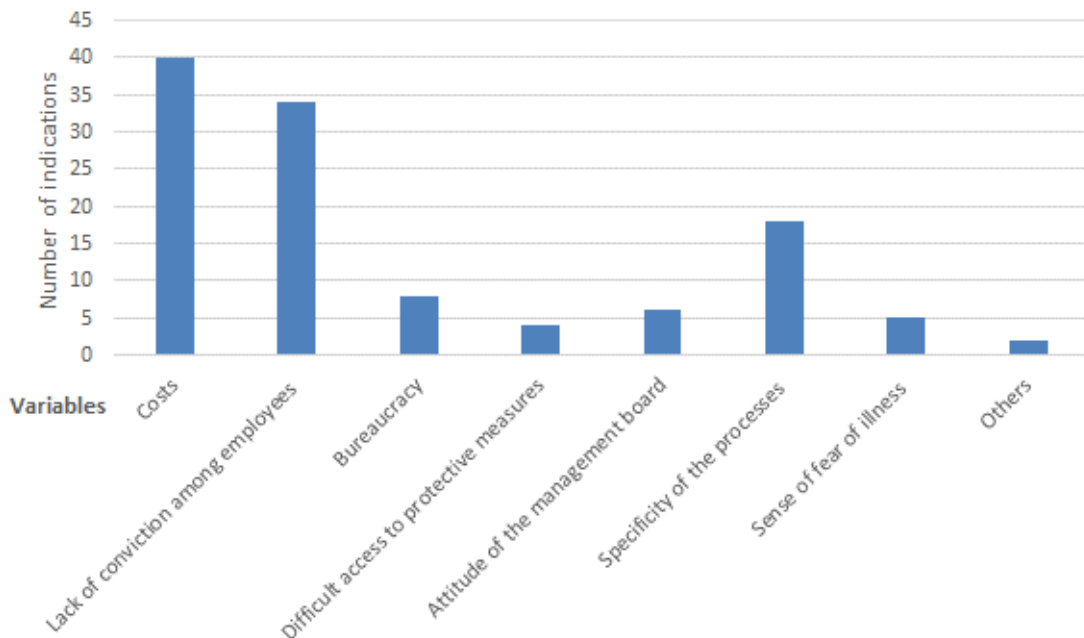


Fig. 3. Barriers encountered during the implementation of changes

Source: elaborated by the author based on own research Conditions for supporting the safety of employees during the Covid-19 pandemic in production companies in Poland, June 2022.

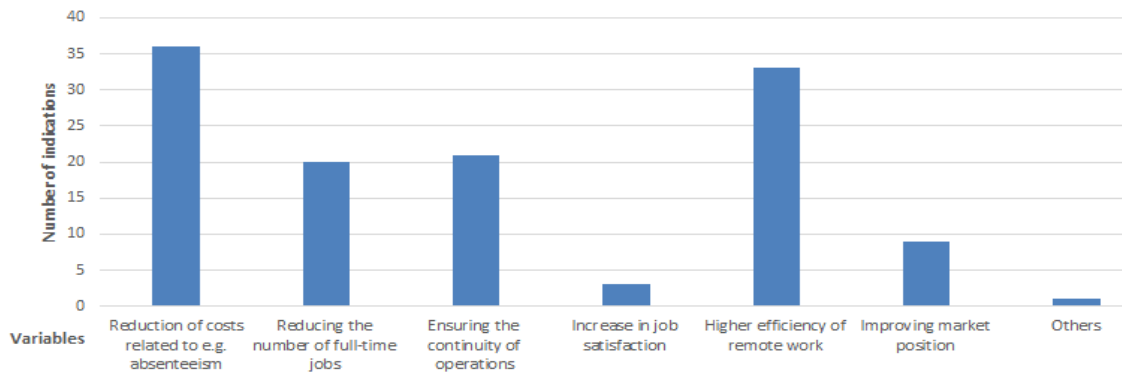


Fig. 4. Effects of the implementation of actions improving the safety of employees

Source: elaborated by the author based on own research Conditions for supporting the safety of employees during the Covid-19 pandemic in production companies in Poland, June 2022.

problems were related to the demotivating attitude of the management board, a sense of fear of illness and difficult access to protective measures. The numerical distribution of individual barriers is presented in Figure 3.

The implemented actions result in numerous consequences, both positive and sometimes negative. Over 70 % of entities reported such financial benefits as higher efficiency of remote work (65 %) while reducing the number of full-time jobs (40 %) or lower operating costs of their infrastructure (70 %). Another benefit is ensuring the continuity of operations (41 %) and, in some instances, improving their market position (18 %). A result of security measures was recorded by only 5 % of the surveyed companies. The most frequent benefits of employee safety measures are shown in Figure 4.

Further activity directions identified by the surveyed companies show that almost 60 % of them plan to maintain the implemented activities regardless of the national and global pandemic situation. 20 % of respondents intend to invest in new processes supporting current activities in the field of employee safety. A complete departure from the measures taken as a result of the pandemic and a return to the previous state was reported by almost 28 % of producers. Such declarations show that despite the experienced difficulties, the vast majority of manufacturing companies will continue the activities undertaken to ensure or improve occupational safety. This proves the growing awareness of the importance of employee safety among industrial entities operating in Poland. This trend is confirmed by the conclusions of global research, indicating the key importance of workplace safety in many aspects of company operations, e.g., in

the context of their strategic development (Milijić et al., 2017), productivity (Lelo et al., 2019) or the possibility to implement guidelines regarding currently dominant concepts, such as the Fourth Industrial Revolution (Chia et al., 2019).

## CONCLUSIONS

The coronavirus threats have changed the world in almost all dimensions, including professional. The contemporary perception of the workplace is no longer limited only to the physical place of work but became a much broader concept consisting of various analysis perspectives, including those related to its social functions, such as building social relationships, gathering, creativity, training, motivation, engagement and self-realisation (Ancillo et al., 2020). Understanding the importance of the workplace in the context of increasing the efficiency and effectiveness of implemented processes, employers are increasingly willing and, above all, consciously and responsibly invest in various measures that increase the minimum required level of safety of their employees.

The so-called “Covid-19 Generation” is characterised by a specific approach to work, which is different than before, requiring reorganisation. The perceived greater productivity and improved work-life balance are the factors that encourage many young employees to stay in the hybrid work mode for good (Zwanka & Buff, 2021). These changes in the mentality of employees mean that the COVID-19 workplace reopening process will require employers to consider many factors, including those related to

the heterogeneity of return-to-work outcomes as well as workplace factors (e.g., supervisor support, ability to accommodate and physical demands), psychological factors (e.g., perceived impairment, job stress, coping, fears of re-injury or worsening health conditions, catastrophising) and also social factors (e.g., family caregiving roles, social support, economic factors) (Shaw et al., 2020).

The pandemic phenomenon has particularly highlighted the importance of workplace safety and intensified the activities of practitioners and theoreticians of the subject in various countries of the world. Therefore, the literature provides numerous practical tips for supporting the management of this area. In addition to the safety management paradigms developed, based on such research results as management commitment to safety, safety rules and procedures, safety training, personal appreciation of risk and safety communication and determining the strength of their impact on employee well-being (Ajmal et al., 2021), many authors significantly emphasise the importance of motivation and other factors that build a sense of employee safety and happiness, which is desirable in a pandemic (Singh & Mishra, 2020). Employers understanding and meeting employee needs during a pandemic can also use the crisis in context theory (CCT) concept framework, which will facilitate the identification of organisational actions or responses to help employees to better adapt to the COVID-19 crisis (Teng-Calleja et al., 2020; Tan & Antonio, 2022).

In conclusion, as per Maslow's motivation theory, security is one of the five basic human needs. This applies to the broadly understood human environment, including the one related to professional life. This is why more employers work on ensuring safety, recognising that employees will be more motivated to work and perform (Wolor et al., 2020). However, the optimal selection of optional measures should be emphasised to increase employee perception of safety as the result of knowing the specifics of the company and its resources because, as research results show, there are significant differences in the scope of managed organisational support, depending on such variables as employment status or work location (Daniels et al., 2022).

Conclusions from the theoretical and practical analysis of workplace safety in production companies can be used to improve the described scope and indicate to employers further directions of action to increase the level of employee safety in accordance with their needs and expectations.

This research is based on a review of recent international literature and a pilot study of production entities in Poland regarding the approach to increasing occupational safety during the COVID-19 pandemic. The subjectivity of the respondents' assessments, mainly managers, can be considered a weakness of the method used. However, it is these subjective leader decisions that largely determine the selection of measures in the field of workplace safety. Since the study was preliminary, future analyses require broader methods and research scope, as well as a wider selection of respondents to compare the perceptions of decision-makers and employees of production entities.

## LITERATURE

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