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Organisational culture based on ESG standards and knowledge management – premises for implementation for the mining industry

Introduction

The article aims to demonstrate the level of ESG culture in Polish economic entities and attempt to show that organizational culture in companies can be shaped using knowledge management. The authors particularly emphasize an organizational culture aligned with ESG standards. Conducted survey research among employees of Polish companies shows that employees perceive ESG standards differently across different age groups.

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This knowledge can, and should, influence how these entities adopt ESG standards. Shaping the significance of ESG in the life of firms affects how they are perceived by external stakeholders and influences the importance of organisational culture as a value within the organisation, impacting its effectiveness.

Organisational culture can provide a hidden advantage, especially in aspects such as ESG. The increasing role of ESG reporting motivates companies to take equal actions for positive reception. However, full identification with the idea is what yields positive effects. Therefore, the role of organisational culture in line with ESG principles remains crucial. Such a culture, where all members of the organisation are not only aware of its principles but also actively shape them, does not happen spontaneously. It can (and should) be achieved using knowledge management techniques and tools. This is especially important since organisational culture can also be a key success factor for modern enterprises, particularly in achieving efficient knowledge management processes.

In the context of defining objectives and implementing ESG strategies, it is essential to integrate them rapidly with the company's business strategy. ESG should not be separated from the existing strategy since corporate governance, environmental impact, and social influence are as important as the company's current operations, and are closely tied to organisational culture. So far, market participants have been unable to compare the practices and results of individual organisations regarding ESG due to the multitude of methodologies and their multifaceted nature. However, the growing popularity of ESG reporting is bringing both sides of the market closer to this trend.

The article poses the following research questions:

- ◆ Q1: How do employees perceive ESG within their companies?
- ◆ Q2: Are employees aware of how ESG standards are implemented by their companies?
- ◆ Q3: What are the chances of smoothly implementing ESG into the DNA of organisational culture, assuming that without understanding it, it cannot be shaped?

The identification of key areas that should be covered by knowledge management processes to introduce a distinct ESG culture in economic entities was based on an analysis of factors determining the shape of individual ESG pillars.

Organisational culture is defined in the literature by many authors for example (Tortorella et al. 2020; Mkoba and Marnewick 2022; Shiferaw et al. 2023) as well as by the authors of the study, e.g. (Bąk et al. 2016; Sukiennik and Bąk 2018; Bąk and Sukiennik 2019).

There are also many types and divisions of organisational culture. However, it's important to remember that several factors determine it. These factors can be broadly categorised into specific groups, among which various characteristics emerge:

1. Characteristics of the organisation itself, including factors such as the company's tradition, size, structure, defined mission and vision, and adopted leadership style.
2. Characteristics of employees, especially their structure, professional experience, embraced values, attitudes, as well as gender or religious beliefs.
3. Characteristics related to the technology and industry in which the organisation operates – the more customer interactions, the more “social” the culture becomes.

In heavy, traditional industries, employees' isolation can lead to detachment from society.

4. Characteristics related to the environment in which the organisation operates, with a particular emphasis on the geographical area of operation, national culture, value systems, and prevailing market structure.

The role of managers in shaping organisational culture is crucial. They do so by promoting a specific system of management culture values. This is linked to the first characteristic, which is the adopted management style. This area remains strongly connected to the second characteristic, which is employee attitudes. Therefore, managers need to be aware of the cultural behavioural patterns of employees that are particularly desirable for the organisation's success, how to shape and perpetuate them, and what consequences and benefits they will bring. This also applies to new trends that systematically emerge in the business environment, including ESG (Environmental, Social, and Governance) standards.

Organisational culture is created by people, who are also the most valuable resource of a company. Nowadays, employees are perceived through their competencies, capabilities, and expectations. Managing competencies through knowledge possessed by employees is the easiest in this aspect. Furthermore, this resource will be reflected in the built organisational culture. An organisation cannot be discussed without considering its resources. In today's business environment, knowledge has been recognised as the most crucial factor for the growth of the modern economy, a foundation for development, and an indicator of its quality. It is worth emphasising that an organisation that aims to manage knowledge effectively must make changes in areas such as (E-mentor) organisational culture and leadership style, technology, organisational structure (favouring flat organisations and creating project teams), motivational systems, and company strategy.

Following this approach, the importance of shaping organisational culture and its impact on how a company operates and is perceived by its environment makes knowledge management a vital process for organisational culture, and vice versa – organisational culture presents a challenge for knowledge management. New trends, and even megatrends, of this feedback loop between organisational culture and knowledge management, are greatly needed. The need to maintain a balance defined in the ESG approach – Environment, Society, and Governance – is a current challenge for business entities. Integrating these three factors into organisational culture should be achieved through knowledge management. Emerging works that combine knowledge in the aspect of intellectual capital and ESG (Environmental, Social, and Governance) (Gangi et al. 2019; Reboredo and Sowaity 2022) demonstrate, the strong link between intangible resources within a company, such as hidden capital in employees and other intangible assets like patents and brand, with non-financial reporting required by the ESG model.

In seeking connections between ESG, organisational culture, and intellectual capital, one of the simplest ways to illustrate this relationship is by using one of the metrics of intellectual capital value efficiency, the VAIC method (Value Added Intellectual Coefficient).

The method is described more extensively in the paper (Podobińska-Staniec and Magda 2019). The method consists of three components: human capital efficiency, structural capital efficiency, and capital employed efficiency. Structural capital can be represented by organisational design, organisational culture, hiring and professional development policies, innovation strategy, technological capital, and external structure (Garcia-Zambrano et al. 2013).

Comparing these components to the ESG elements, we can observe clear connections in the following aspects:

1. Social: This includes labour practices, health and safety, community engagement, diversity and inclusion, community relations, local economic contribution, and product and service attributes.
2. Governance: Here, the connections lie in aspects such as business ethics, data security, capital allocations, supply chain management, governance structure and engagement, incentives, policies, external disclosures, position, and advocacy (Pérez et al. 2022).

Due to these visible connections, the study examined employees in the context of their perception of ESG-related actions. Simultaneously, this study shows the connection with elements that build the organisational culture of the company, which ultimately influences the value of intangible assets (Figure 1).

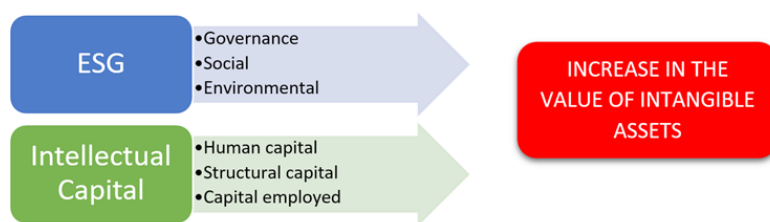


Fig. 1. The Impact of ESG and Intellectual Capital on Intangible Asset Value

Source: own elaboration

Rys. 1. Wpływ ESG i Kapitału Intelktualnego na Wartość Aktywów Niematerialnych

1. Materials and methods

1.1. Systematic Literature Review (SLR)

The article explores the approach of companies to Environmental, Social, and Corporate Governance (ESG) issues by utilising the Scopus database. In a multi-criteria analysis, the researchers looked for works related to both ESG and organisational culture. They believed that an organisation's functioning, prevailing customs, and employee behaviors influence

the potential for introducing new standards, making the compilation of these two concepts essential and forming the focus of this study. The significance of the subject matter is supported by a Deloitte report stating that 88% of millennials evaluate a firm based on its social impact, in addition to its financial performance (The 2017 Deloitte Millennial Survey).

The initial search in the Scopus database focused on the keyword “ESG” and yielded 3,733 results. The majority of publications were made between 2019 and 2024, with a significant emphasis on the year 2021 (340 works), 2022 (876 works) and 2023 (1,511 works). The studies covered various scientific fields, with the highest representation in the following subject areas: Business, Management, and Accounting (1,555 works), Economics and Finance (1,534 works), Social Sciences (1,039 works), Environmental Science (1,022 works), Energy (628 works).

Subsequently, the researchers searched for works related to “organisational culture” in the Scopus database, resulting in 30,875 outcomes. Publications in this area started to accumulate in larger numbers from 1995 onwards, with an average of 1,300 works published annually. Notably, the most frequent subjects of these works were Medicine (12,676 works), Business, Management, and Accounting (6,604 works), Nursing (6,232 works), Social Science (5,983 works), and Engineering (2,461 works).

To narrow down the research scope and conduct an analysis aligned with the study’s theme, the researchers combined two keywords: “ESG” and “Organisational Culture.” This refined search yielded only two results (Kim 2022; Cardillo 2023).

Due to the small number of results obtained, the database was searched again, this time using the combination of keywords: ESG + Staff. As a result, one relevant study was found: “Quality assurance and its impact from higher education institutions’ perspectives: methodological approaches, experiences, and expectations” (Bejan 2015).

In an attempt to understand the limited number of results in the utilised search, it is essential to recognize the recent changes that have occurred. Previously, most publicly traded companies followed the CSR (Corporate Social Responsibility) reporting standard as a required norm for reporting non-financial information about the enterprise. CSR reporting aims to communicate information related to the company’s social and environmental responsibility and engagement in corporate social and environmental matters. The first initiatives regarding CSR reporting emerged in the 1990s, and since then, numerous organisations and standards have developed frameworks and guidelines for CSR reporting.

Mandatory CSR reporting requirements vary depending on the country. In 2014, the European Union introduced the Non-Financial Reporting Directive (2014/95/EU), which applies to large public companies and companies with significant social and environmental impacts. This directive requires these companies to disclose information about their CSR policies, social, and environmental, and employee-related actions, and to incorporate sustainable development aspects into their business strategies. However, the NFRD does not impose any obligation to apply specific reporting standards for the information.

This principle will change from January 1, 2024, with the introduction of the Corporate Sustainability Reporting Directive (CSRD). According to the presented schedule, starting

from January 1, 2024, the CSRD will apply to entities subject to the NFRD, i.e., companies employing more than 500 employees and being public interest entities (with the first report published in 2025 for the year 2024). From January 1, 2025, the obligation will extend to all companies employing more than 250 employees, and from January 1, 2026, it will encompass small and medium-sized listed entities employing more than 10 employees. The new directive will also introduce the obligation to report required information by the European Sustainability Reporting Standards.

The circulation of ESG reporting is still in its early stages. Therefore, it is crucial to examine the elements of this reporting from the perspective of the most sensitive to changes, which is the social aspect.

Table 1. Compilation of Publications in the Context of Addressed Topics and Areas

Tabela 1. Zestawienie publikacji w kontekście omawianych tematów i obszarów

Author	ESG	Organizational culture	Sustainability	Staff/ /social	Area
Gao et al. 2023	x				Corporation
Woźniak 2022	x		x		Mining Company
Aksoy et al. 2022	x		x	x	Largest US Companies
Nguyen et al. 2022	x				Countries
Barth et al. 2022	x			x	European and US firms
Andriosopoulos and Deepty 2022	x			x	Companies
Welch and Yoon 2022	x		x		Managers
Singhania and Saini 2022	x				Stakeholder
Amiraslani et al. 2022	x		x	x	Corporate bonds
Martini 2021	x		x	x	SRI
Karwowski and Raulinajtys-Grzybek 2021	x		x		Stakeholder
Karpoff, J. M. 2021	x				Stakeholders
Diener Habisch 2021	x		x	x	Portfolio Companies
Murè et al. 2021	x				Banks
Chiu 2020	x				Stock Market
Broadstock 2020	x				Japanese Firms
Cardillo and Harasheh 2023	x	x	x		M&A
Kim et al. 2022	x	x	x		Multinational Corporation

Source: own elaboration.

In the subject literature, based on the Scopus database, there are 186 works discussing ESG and CSR. Between the years 2020 and 2023, as many as 155 of these works were written, with the largest groups falling under two areas: Business, Management, and Accounting (800) and Economics, Econometrics, and Finance (69).

When searching for a combination of CSR and Organisational Culture, 40 results were obtained, published between 2013 and 2014. Over the last five years, 20 publications were identified as the most relevant to the topic discussed in this paper. One significant publication on this subject appeared in 2012, titled “What We Know and Don’t Know About Corporate Social Responsibility: A Review and Research Agenda” by Herman Aguinis and Ante Glavas (Aguinis and Glavas 2012). Another important work in the relevant scope is “Corporate Governance and Corporate Social Responsibility (CSR): The Moderating Roles of Attainment Discrepancy and Organisation Slack” by Punit Arora and Ravi Dharwadkar (Arora and Dharwadkar 2011).

Below, in Table 1, a compilation of articles published between 2020 and 2023 related to ESG reporting is presented. The analysed articles are categorised based on organisational culture, staff or social aspects, and sustainability to illustrate how few of them connect these aspects. The purpose of this paper is to emphasize the importance of considering organisational culture, non-financial reporting, and employee aspects together, providing an opportunity for the growth of a company’s value.

1.2. Application of ESG in the Polish mining industry

The mining industry is one of the pillars of the Polish economy. In Poland, but not only here, it is characterised by a large negative impact on the natural environment, high energy consumption, and financial instability. ESG assessment and reporting are important levers in promoting sustainability. It is necessary to promote and implement reporting standards in all areas.

The concept of non-financial reporting is well-known and has been successfully implemented among Polish mining companies. Leading raw material companies such as KGHM Polska Miedź SA, JSW SA, and LW Bogdanka SA ensure the highest quality and transparency of reporting, providing reliable information on the companies’ operations that is useful for the local community but also for international communities and stakeholders.

KGHM, as a leading producer of refined copper and silver in the world, intensively supports initiatives related to sustainable development and ESG reporting. It is also worth mentioning LW Bogdanka SA, which has been recognised as a leading company in CSR reporting for years, and for which expanding this topic to aspects related to ESG does not seem to be a problem. JSW (Jastrzębska Spółka Węglowa) can be presented as a model for activities in this area, which was the first in Poland and one of the first entities from the mining sector in Central and Eastern Europe to obtain innovative financing in the SLL (Sustainability Linked Loan) formula.

In addition to issues related to environmental and social aspects, the role of ESG reporting in the context of the awareness of employees of the mining industry should be particularly raised. This should take place in all employee groups and lead to a situation in which the following are employed:

- ◆ highly specialised underground workers who can operate modern devices and machine complexes, who know their internal structure, understand the issues of durability and limiting the wear of actuating elements of machines and devices, understand geotechnical issues, respond to warning states of measuring equipment and have discipline and trust in management staff,
- ◆ competent engineers, whose work on the surface should not only be limited to reporting and setting real goals and production plans but should also be focused on analysing incoming data, resulting in discovering relationships between various types of parameters of the production process, which leads to:
 - ◆ increasing the level of work related to traffic maintenance,
 - ◆ appropriate selection of mining machines and equipment,
 - ◆ rational staffing (both in terms of quantity and competence),
 - ◆ increasing the safety of work performed,
 - ◆ elimination of negative impact on the environment, both in the geotechnical and environmental areas.

Managers are aware of the constant need to conduct training for employees to improve their job competencies and to help them understand and appreciate their place and responsibility in the production process. This awareness translates into internal motivation to conscientiously perform their duties in the spirit of ESG and also gives them a better idea of their potential career path.

A responsible manager should also take care of the internal cohesion of the staff, which should be especially the case in mining plants, where, due to work often in extreme geological and mining conditions, mutual control, trust and mutual care of employees is the basic issue of increasing work safety.

The above-mentioned cohesion should not only apply within the mine's horizontal organisational structures but also vertically so that employees at all levels of the structure are aware of the competencies of other employees and appreciate their work.

Moreover, the demand for data analysis should be met by the work of competent data analysts. However, it is difficult to expect in-depth knowledge of mining processes from graduates of recent university courses related to data analysis. The answer to this issue may, of course, be training for current employees, but most often their competencies are already developed. Therefore, it is necessary to consider the creation of additional units in the organisational structure of mining companies, staffed by data analysts supported by the knowledge regarding mining processes possessed by current employees from the engineering group.

1.3. Survey research

In order to understand the relationships between employee perceptions and elements of ESG reporting, a survey was conducted consisting of 43 questions. The survey was divided into three sections, following the ESG naming convention, where aspects related to Environmental, Social, and Governance were queried. The survey also included a metric serving as a parameter for grouping in further analysis and identifying certain ESG perceptions according to specific criteria.

The survey was conducted using the Google platform, where the questionnaire was placed to be distributed through the social network LinkedIn. As a result, 49 fully completed surveys were obtained, which constituted the research sample subjected to analysis. Due to the presented research sample, the study should be treated as a pilot study, yet it still provides an opportunity to draw constructive conclusions for enterprises. The potential of the study shows that by expanding the research field, it will be possible to gather abundant materials for further work both in the field of reporting and the development of enterprises.

The questions in the survey were of single-choice type, and some of them utilised a rating scale. The content of the questions divided into respective sections is presented in Table 2:

Table 2. Sets of Questions in the Study of ESG Principles Awareness in Polish Enterprises

Tabela 2. Zestawy pytań w badaniu świadomości zasad ESG w polskich przedsiębiorstwach

E – Environmental	
No.	Questions
E.1	Does the company undertake actions aimed at caring for the natural environment in the location where its business operates?
E.2	Are sustainable development goals known and promoted within the company?
E.3	Does the company identify itself (operate) in line with sustainable development goals?
E.4	Does the company change or diversify its energy sources (e.g., heat pumps, photovoltaic panels)?
E.5	Does the company carry out activities aimed at air protection?
E.6	Does the company measure/declare its carbon footprint
E.7	Does the company implement “clean tech” technologies?
E.8	Does the company care for degraded areas?
E.9	Does the company care for green areas around its premises?
E.10	Does the company engage in environmental protection actions where it is a pioneer, or which are the hallmark of its pro-ecological activity?
E.11	Do you have any ideas on what could be done at your workplace to improve environmental care? (Open question)
E.12	Is it important for you that your workplace takes actions to improve air quality?
E.13	Would you like to be part of a company that cares about the natural environment?

S – Social	
No.	Questions
S.1	Does the company take care of employee safety by clearly emphasising occupational health and safety management?
S.2	Does the company highlight health and safety successes, e.g., by counting the number of accident-free days?
S.3	Does the company promote good relationships among employees and work to eliminate disputes?
S.4	Does the company promote pro-ecological actions among its employees?
S.5	Does the company care for the local community in the municipalities where it operates by running projects that improve residents' lives?
S.6	Does the company expect employee involvement and have policies such as employee suggestions?
S.7	In your opinion, are there instances of mobbing in the company?
S.8	If instances of mobbing occur, are they addressed by higher authorities?
S.9	In your opinion, is there a problem convincing older employee to embrace new projects?
S.10	Does the company have a policy that supports employee development?
S.11	Does the company implement a socially friendly policy for employees?
S.12	Do employees have access to benefits such as club cards, fruit Thursdays, team-building events, and occasional celebrations?
S.13	Do you have any ideas on what could be done at your workplace to improve social relations? (Open question)
S.14	Is it important for you that your workplace is socially responsible?
S.15	Do you want to be part of a company that does not care about social issues and only focuses on its core business activities?
G – Governance	
No.	Questions
G.1	Is the Corporate Governance framework (or the company's mission and objectives) known to employees?
G.2	Is the Corporate Governance framework (or the company's mission and objectives) adhered to and considered important by the company's authorities?
G.3	Is the organisational structure well-defined and followed within the company?
G.4	Are there clear policies in the company to combat corruption and other unethical behaviors?
G.5	Are women and men treated similarly, or are there perceived differences?
G.6	Is there an anti-discrimination policy in the company?
G.7	Are cybersecurity measures implemented within the company?
G.8	Is there a code of conduct (formal or informal) regarding unethical behaviors?
G.9	Is the General Data Protection Regulation (GDPR) policy adhered to?
G.10	Is there a policy to protect whistleblowers?
G.11	Is there a defined policy for taking care of business partners?

Source: own elaboration.

The respondents' profiles were determined using three grouping variables: length of employment, company size, and industry of operation. The research sample belonged to various industries related to manufacturing. The majority, as much as 74%, were employees in the production sector. The percentage distribution of these grouping variables is presented in the pie charts below (Figure 2–3).



Fig. 2. Respondents' Length of Employment
Source: own elaboration

Rys. 2. Długość zatrudnienia respondentów

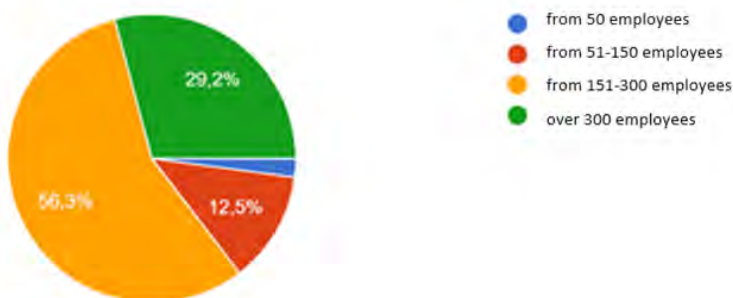


Fig. 3. Employment Size in the Respondents' Companies
Source: own elaboration

Rys. 3. Wielkość firmy z punktu widzenia liczby zatrudnienia

There were no responses to the surveys from the mining and energy sectors, which allows us to conclude that the topic should be introduced to the awareness of employees of these industries in a special way. This can be seen through the statements of experts from related industries and the activities in the ESG area of key and large entities of the mining market.

2. Results and discussion

The survey analysis was further divided into three groups, using length of employment in the company as the grouping parameter for responding. These groups correspond to the following periods of employment: 1 to 3 years, 4 to 7 years, and the last group comprising individuals employed for more than 7 years.

2.1. Analysis of the obtained results for the youngest tenure group

The youngest tenure group is the largest group, consisting of 30 respondents. The radar charts below illustrate the responses of all respondents for each question in the areas of environmental, social, and governance (ESG). Subsequently, the results were averaged, presented in Figure 4 included below, and subjected to interpretation.

Analysing the averaged values of the obtained responses in the Environmental section, negative answers most frequently appear about questions 6, 7, 8, and 10. The issues are as follows:

- 6. Conducting a carbon footprint study by the company.
- 7. Application of “Clean Tech” technologies, with responses equally distributed.

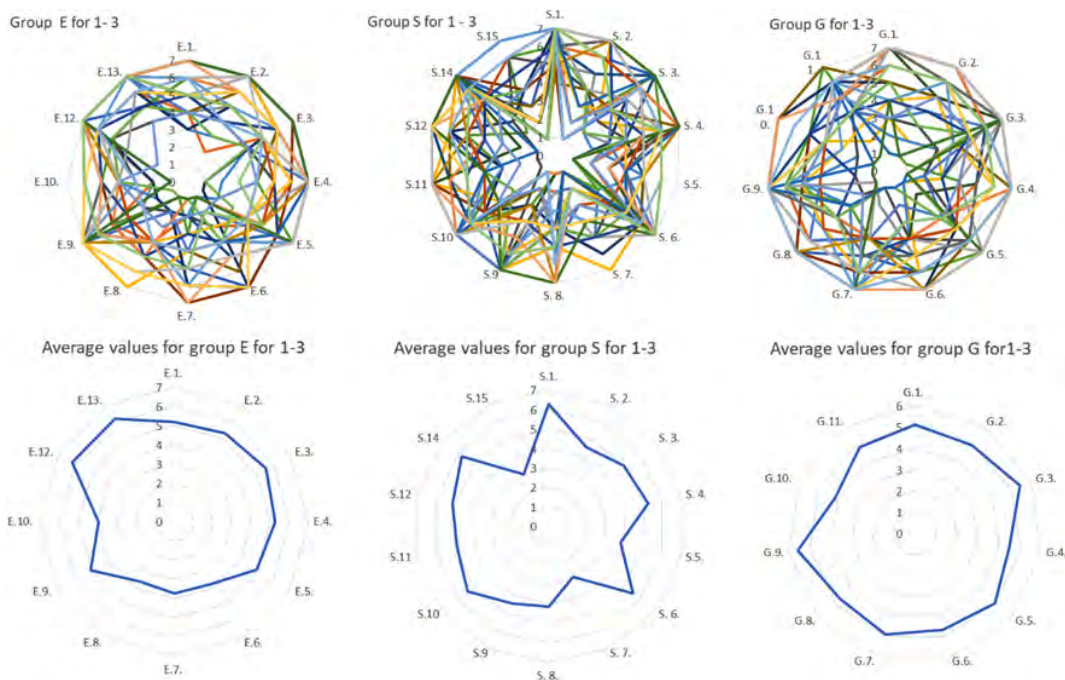


Fig. 4. Survey results of employees with tenure up to 3 years
Source: own elaboration

Rys. 4. Wyniki ankiet pracowników z okresem zatrudnienia do 3 lat

8. Concerns about degraded areas, considering the prevalence of responses from the manufacturing sector, the distribution of votes is not entirely negative. The majority of respondents cannot provide an answer, indicating a lack of knowledge.
10. Pioneering ecological initiatives conducted by their companies. The majority of respondents lack knowledge in this area, as evidenced by the lack of a clear affirmative answer. The statistics show a roughly even distribution of responses, with more decisive votes against.

Negative responses indicate gaps in the organisational culture. An appropriate organisational culture, including educational and training activities for employees, and implementation of ecological projects in collaboration with employees, will help establish an environmentally conscious policy. Additionally, an organisation that educates not only in core business areas but also emphasises socially relevant values builds an additional bond with its employees.

Moving on to the analysis of the chart of averaged results obtained in the Social section, negative answers most frequently appear in response to questions 5, 7, 9, and 16. The issues are as follows:

5. Concerns of companies about the local community, introducing projects to improve residents' lives.
7. Incidents of bullying, which mostly do not occur. There is a large gap between the maximum and minimum values in the responses. Additionally, the significant percentage of people who believe in the existence of this phenomenon is concerning.
9. Ways of resolving bullying situations, with the vast majority being unaware of how such situations are resolved.
16. Identification with companies focused solely on professional activities. A small portion of respondents strongly prioritize professional activities, disregarding the social aspect.

The visible context in this area relates to the influence of organisational culture on the care for employees' local community, their level of safety, and working comfort. The majority of respondents do not wish to be part of companies that overlook the social aspect.

The third group of questions concerns factors related to the Governance section. Analysing the average values of negative responses, they mainly appear about question 10, which pertains to:

10. Whistleblower protection policy.

According to the new law, individuals reporting legal violations in companies are protected.

A significant portion of respondents are unaware of whistleblower protection. The remaining responses are distributed in a similar ratio. The results demonstrate that the implementation of the new law leaves many ambiguities. Time is needed to systematize knowledge on this topic and raise employee awareness.

For the remaining questions, affirmative responses confirm a high level of culture, corporate governance, and organisational structure. This may indicate a high level of awareness among respondents and organisational maturity in managerial aspects.

2.2. Analysis of the obtained results for the average tenure of the research group

In the same way as in the internship group with 1–3 years of experience, a study was conducted in a group with work experience ranging from 4 to 7 years. This group consists of employees who are more familiar with both formal and informal company activities. Therefore, they may form a more aware community. The number of respondents in this work experience range was 13 individuals. The obtained results are presented in the following charts in Figure 5.

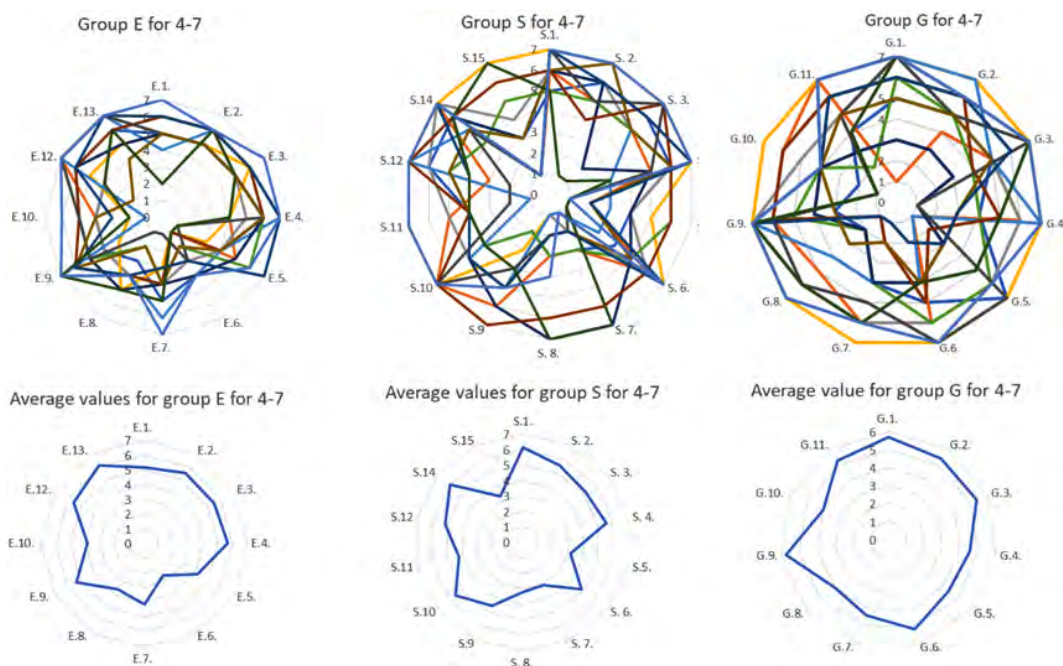


Fig. 5. Survey results of employees with work experience ranging from 4 to 7 years
Source: own elaboration

Rys. 5. Wyniki ankiet pracowników z doświadczeniem zawodowym od 4 do 7 lat

2.3. Analysis of the obtained results for the oldest tenure group in the research

The last group consists of individuals with the longest work experience – over 7 years. In this group, only a few respondents participated, specifically only 6 survey participants. The obtained results are presented in the charts below in Figure 6.

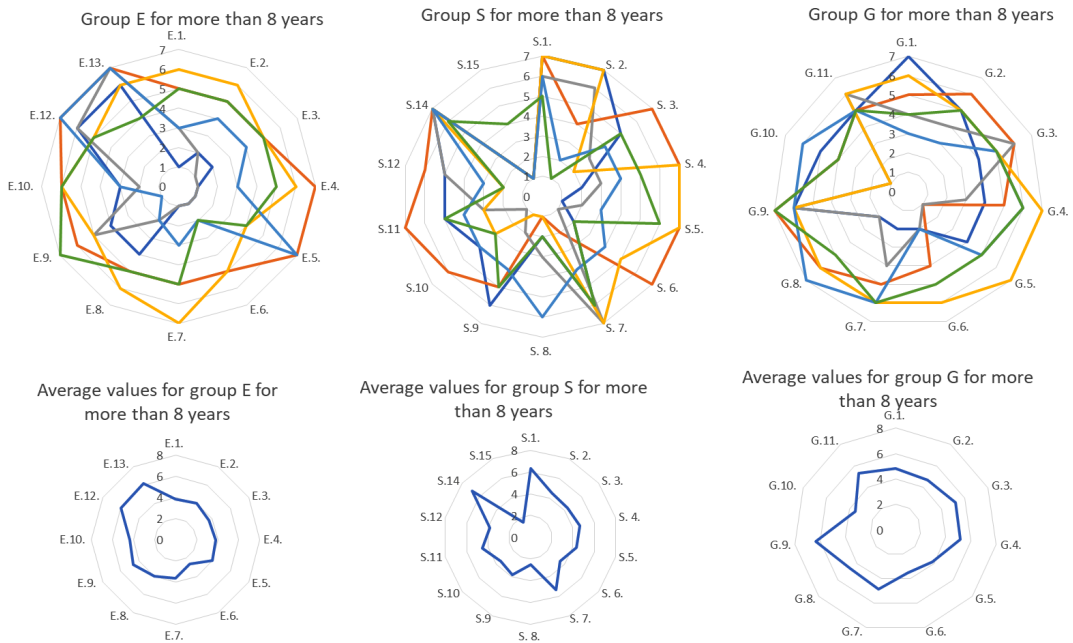


Fig. 6. Survey results of employees with over 7 years of experience

Source: own elaboration

Rys. 6. Wyniki ankiet pracowników z ponad 7-letnim doświadczeniem

Analysing the responses from the E group of questions, it is evident that negative answers most frequently appear in the context of questions 1, 2, 6, 7, 8, and 10. The topics covered are:

1. Actions aimed at caring for the environment at the place of business operations.
2. Familiarity and transparency of sustainable development goals within the company.
6. Carbon footprint assessments.
7. The application of “Clean Tech” technologies, with a 50/50 split in the vote.
8. Concerns for degraded areas, considering the majority of respondents come from the manufacturing sector, and the distribution of votes is not entirely negative. A significant majority of the surveyed individuals are unable to provide an answer, indicating a lack of knowledge.
10. Pioneering eco-friendly initiatives conducted by their respective companies. The majority of respondents lack knowledge in this area, leading to an inconclusive positive response. The statistics show an almost even distribution of answers, although there are more definite negative votes.

Individuals with the longest work experience tend to give the most negative responses in the Environment category. The results obtained from analysing the averaged values of responses from the S group of questions for employees with over 7 years of experience

indicate that negative responses most frequently appear for questions 3, 5, 6, 9, 11, 13, and 16. The topics covered are:

3. Proper relations between employees and the elimination of disputes.
5. Concerns of companies for the local community and the implementation of projects to improve the lives of residents.
6. Employee engagement in the company and the implementation of employee suggestion policies.
9. Methods of resolving bullying situations, with a significant majority unaware of how such situations are handled.
11. The implementation of employee-friendly development policies by the company.
13. Benefits that employees receive from the company.
16. Identification with companies solely focused on professional activities. A small portion of the respondents strongly prioritize professional activities, disregarding the social aspect.

The responses in the social category have significantly more negative answers. The analysis of responses suggests traces of professional burnout, lack of development prospects within the company, and underappreciation of benefits. According to the respondents with the most extended work experience, there is no issue with convincing the most experienced staff to implement new projects. The high number of negative responses within this group may indicate a lack of action from management and decision-makers in shaping the organisational culture at its foundation.

Analysing the results obtained from the responses in the G group of questions, negative responses appear about questions 5, 6, and 10. The topics covered are:

5. Equality between women and men.
6. The presence of anti-discrimination policies.
10. Whistleblower protection policies.

Survey participants perceive unequal treatment of women and men and the absence of anti-discrimination policies. Under the new law, individuals reporting violations in companies are protected. A significant portion of respondents is unaware of whistleblower protection. The remaining votes are distributed similarly. The results indicate that the implementation of the new law leaves many ambiguities. Time is needed to systematize knowledge in this area and raise awareness. Additionally, individuals with more work experience express negative views on topics related to cybersecurity and formal and informal workplace codes.

Regarding the other questions, the responses confirm high corporate culture, good corporate governance, and organisational structure. However, individuals with the longest work experience in the area of “Corporate Governance” provide the highest number of negative votes.

Conclusions

Summarising the analysis of radar charts (Figure 7), among the respondents without dividing them by work experience, the highest number of negative responses is observed in the area of S – “Social Responsibility”. The next area with a higher number of negative votes is E – “Environmental Protection”. The highest number of positive responses was obtained in the G area – “Corporate Governance”. Taking into account work experience, the distribution of responses in the surveyed areas is similar. It is worth noting that with increasing work experience, the number of negative responses tends to be higher. Respondents with the most extended work experience work in companies with at least 150 employees.

The most significant difference in responses can be observed when comparing groups based on work experience. Differences in responses are apparent between the most experienced group of employees, working for 7 years or more, and less experienced employees, working for one to seven years. Generally, the most significant differences are in the E and S areas, which are crucial for organisational culture and knowledge management within the organisation.

Questions from E1 to E4 provide insights into the company’s commitment to environmental actions. The difference in responses that appeared due to the length of employment

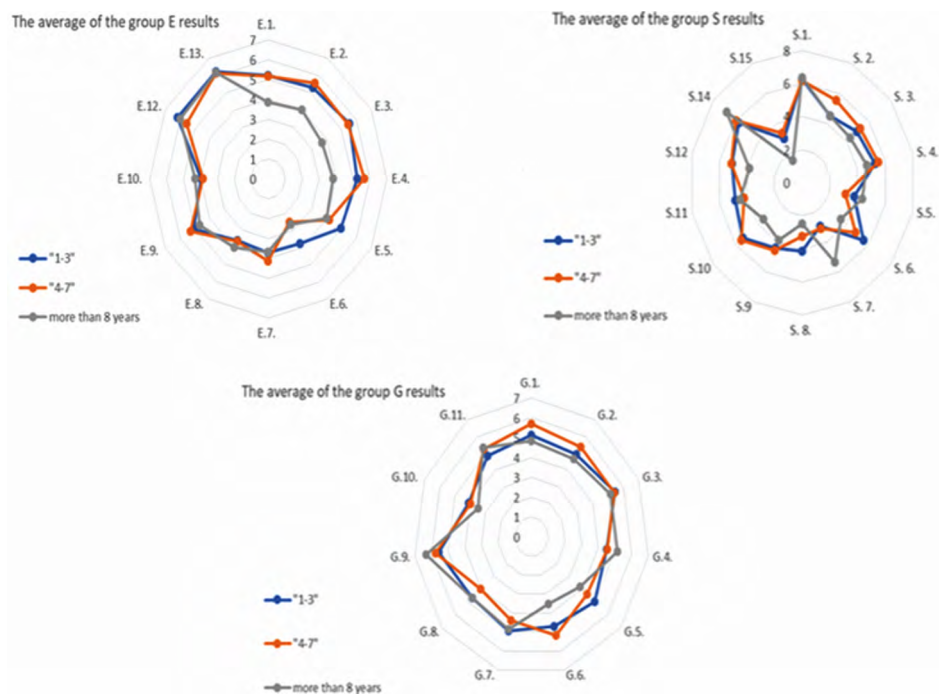


Fig. 7. Averaged Results of Surveys from All Employees
Source: own elaboration

Rys. 7. Średnie wyniki ankiet od wszystkich pracowników

may be attributed to the focus on other aspects within the company by individuals with less work experience. However, the areas covered in questions from E5 to E8 require improvement, as these questions received the weakest responses. They pertain to concerns about carbon footprint, degraded areas, and “clean tech” technologies. It is encouraging to note that questions regarding the willingness to be part of an environmentally-conscious organisation and to engage in activities to improve air quality received the most significant support in terms of positive ratings from the respondents.

In the Social category, the most significant differences are observed in questions S7, S10, and S15. This indicates that awareness or experience with bullying is more prevalent among employees with more experience, i.e., those working for a minimum of 7 years. Additionally, this group showed less support for being part of an organisation that neglects social issues and focuses solely on basic professional activities. There appears to be a greater need for support and a higher awareness of employee needs, as well as a stronger attachment to the workplace among individuals with more work experience. Question S10 revealed that younger employees face challenges in persuading older colleagues to implement new projects, which is a common phenomenon in many multi-generational companies. Questions S1 and S14 received the highest positive ratings in this category across all work experience groups, which is satisfactory considering the focus on workplace safety and the need for socially responsible businesses.

As mentioned, both areas (S and E) are crucial in terms of shaping and creating organisational culture. Identifying unfavourable trends (e.g., a noticeable lack of integration with the local community) and implementing appropriate knowledge management tools can significantly impact the desired ESG culture. This will not only aid companies in reporting in line with the ESG concept but also in gaining or maintaining such perception within their surroundings.

In the Governance category, four questions deserve attention. Question G10, regarding the existence of a whistleblower protection policy, revealed a lack of knowledge on this topic or the actual absence of such initiatives in organisations across all surveyed groups. This is a strong signal to management that there is a need to work in this area. It presents an ideal opportunity to introduce knowledge management elements – employees of all generations struggle with this issue, so universal tools can be implemented to familiarize employees with the subject and introduce recognizable cultural artifacts.

Questions G4 and G6 showed differences based on respondents’ work experience. Knowledge regarding anti-corruption measures or other unethical behaviour and anti-discrimination policies differs among the surveyed groups, highlighting the need for additional work by companies. Diversifying levels of knowledge management is necessary for different groups. However, with consistent policies and adherence to a specific goal, improvement can be achieved, and the expected level of organisational culture can be nurtured.

The questions related to GDPR and organisational structure received the most positive ratings in this category, which is a very positive sign. Consistent regulations and clarity in their application for each employee group result in positive effects. This can be an indication

of how companies should approach problematic areas to make changes in organisational culture visible, understandable, and adhered to within the organisation.

The general summary, based on the analysis of pilot studies, is presented in Table 3. This compilation is a starting point for actions in the area of shaping ESG culture and selecting appropriate knowledge management initiatives in companies. It should be noted that this table is the result of the opinions obtained in the survey. It is a proposal for a universal solution that gathers suggestions and directions for further decisions. The table presented below concerns the results obtained in the study described in this publication. The authors’ further work will aim to match specific instruments from the field of knowledge management, shaping employee behavior, and organisational culture to the individual E, S, and G areas, making them universal for economic entities.

Based on the conducted research, it can be stated that there is a high awareness among employees regarding the examined ESG aspects. Encouragingly, there are facts indicating the willingness to participate in organisations that are environmentally conscious and care about human rights and reputation. The data collected in the above table can serve as a foundation for building an employee-friendly organisational culture and facilitate compliance with ESG directive recommendations. It is essential to remember that having employees on one’s side is a valuable asset in the fight against competition. An employee who feels safe, appreciated, and aware of their abilities will undoubtedly be better in terms of skill development, thus improving the organisation’s value-added work. Addressing specific, grassroots issues on this matter will, in the long run, influence how the company is perceived externally and contribute to its growth in value.

Table 3. Areas for Improvement in ESG Segmentation

Tabela 3. Obszary do poprawy w segmentacji ESG

ESG – Guidelines for Implementation		
E	S	G
<ul style="list-style-type: none"> ◆ Increase employees’ awareness of eco-friendly actions taken by companies. ◆ Report on the use of technologies that reduce energy consumption ◆ Ability to calculate carbon footprint. ◆ Educate employees on the above-mentioned aspects. 	<ul style="list-style-type: none"> ◆ Implement a policy of equality that is transparent and applied consistently. ◆ Establish a clear and comprehensive anti-bullying policy. ◆ Appoint an employee advocate who can assist in cases of bullying, even if it is a social role. ◆ Reward behaviors aligned with CSR, ESG, etc. ◆ Internal and external reporting of social initiatives. ◆ Maintain a coherent project management policy. 	<ul style="list-style-type: none"> ◆ Work on awareness of rights and protections, including those related to whistleblower protection. ◆ Learn from best practices to improve transparency and prevent unethical, corrupt, or discriminatory actions. ◆ Strengthen the role of women throughout the value chain and eliminate harmful practices. ◆ Implement an active pro-family policy. ◆ Provide conditions for employees to return to work after maternity leave.

Source: own elaboration.

The research presented in this study aims to indicate the important role of an employee in an enterprise based on ESG principles. It seems very important that each employee sees these guidelines as an opportunity to improve the working environment. The biggest resistance in the process of introducing changes is the person, but if he notices the benefits for himself, it will be easier for him to implement the change process. Therefore, we believe that it is necessary to build ESG tools that will highlight the essence of employees and ensure their comfort at work.

To sum up, the concept of ESG is very well known in the Polish mining industry, and what is more, leading raw material companies apply green order mandates. However, this is not an easy topic, especially for the mining sector. The added value of raw material companies in Poland is their continuous development, care for the natural environment, and corporate social responsibility.

The next stage of the research will include a detailed analysis of the progress in introducing the ESG standard in Polish mining companies compared to global mining giants.

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**ORGANISATIONAL CULTURE BASED ON ESG STANDARDS AND KNOWLEDGE
MANAGEMENT – PREMISES FOR IMPLEMENTATION FOR THE MINING INDUSTRY**

Keywords

ESG, organisational culture, knowledge management

Abstract

This article aims to examine the level of ESG culture in Polish enterprises and indicate premises for implementation in the mining industry. The publication conducts a multi-criteria analysis of literature regarding companies' approaches to ESG standards. The study focuses on shaping organisational culture by utilising knowledge management tools. The actual level of ESG culture among respondents was obtained through a survey. Survey results for individual groups are presented in comprehensive and averaged radar charts. The sample included employees from small, medium, and large companies, considering their tenure and the industry in which the enterprise operates. The pilot study enabled drawing many constructive conclusions. However, noticeable significant gaps in ESG-compliant organisational culture were observed. Companies primarily focus on their core activities, neglecting socially significant values and building additional employee bonds. Through the analysis of survey data, guidelines for implementing ESG reporting in specific areas were developed. Potential solutions to problematic issues for enterprises were also identified. The research has significant potential, and expanding the scope could directly impact the quality of reporting and the development of enterprises including entities in the mining industry.

**KULTURA ORGANIZACYJNA OPARTA NA STANDARDACH ESG ORAZ ZARZĄDZANIE
WIEDZĄ – PRZESŁANKI DO WDROŻENIA W PRZEMYSŁE GÓRNICZYM****Słowa kluczowe**

ESG, kultura organizacyjna, zarządzanie wiedzą

Streszczenie

Nadrzędnym celem niniejszego artykułu jest zbadanie poziomu kultury ESG w polskich przedsiębiorstwach oraz wskazanie przesłanek wdrożeniowych dla przedsiębiorstw górniczych. Publikacja zawiera wielokryterialną analizę literatury dotyczącej podejść firm do standardów ESG oraz badanie skupiające się na kształtowaniu kultury organizacyjnej poprzez wykorzystanie narzędzi zarządzania wiedzą. W wyniku przeprowadzonego badania uzyskano poziom kultury ESG wśród respondentów. Wyniki ankiet dla poszczególnych grup są przedstawione w kompleksowych i uśrednionych wykresach radarowych. Próba obejmowała pracowników małych, średnich i dużych firm, uwzględniając ich staż oraz branżę, w której przedsiębiorstwo działa. Badanie pilotażowe umożliwiło wyciągnięcie wielu konstruktywnych wniosków. Zauważalne jednak były istotne luki w kulturze organizacyjnej zgodnej z ESG. Firmy skupiają się przede wszystkim na swoich głównych działaniach, zaniedbując społecznie istotne wartości i budowanie dodatkowych więzi z pracownikami. Poprzez analizę danych ankietowych opracowano wytyczne dotyczące wdrażania raportowania ESG w konkretnych obszarach. Zidentyfikowano również potencjalne rozwiązania problematycznych kwestii dla przedsiębiorstw. Badanie to ma znaczący potencjał, a rozszerzenie zakresu może mieć bezpośredni wpływ na jakość raportowania i rozwój przedsiębiorstw, w tym podmiotów z branży górniczej.

