

KATARZYNA PACTWA<sup>1</sup>, JUSTYNA WOŹNIAK<sup>2</sup>

## Knowledge of CSR issues among mining business stakeholders and the academic environment – case study from Poland

### Introduction

The concept of CSR is present all over the world (among others Jenkins and Yakovleva 2006; Pietrzyk-Sokulska et al. 2015; Que et al. 2019; Witek-Crabb 2019), both in developed and developing countries. CSR awareness continues to expand and gain acceptance (it applies to the mining sector as well), and the policy is formalized. CSR is gaining interest among academic teachers, and the number of scientific works in this area is constantly growing (Global Compact 2016). The origins of Corporate Social Responsibility (CSR) date back to the turn of the 19th and 20th centuries, when this concept was perceived as a concern of wealthy people about the poorer ones in contemporary society. In light of the original doctrine of Carnegie Andrew (the author of Gospel of wealth (1868)), CSR was based on two principles: charity in relation to the principles of Christianity and trust, whereby it is the

---

✉ Corresponding Author: Katarzyna Pactwa; e-mail: [katarzyna.pactwa@pwr.edu.pl](mailto:katarzyna.pactwa@pwr.edu.pl)

<sup>1</sup> Wrocław University of Science and Technology, Poland; ORCID iD: 0000-0003-3344-847X;  
e-mail: [katarzyna.pactwa@pwr.edu.pl](mailto:katarzyna.pactwa@pwr.edu.pl)

<sup>2</sup> Wrocław University of Science and Technology, Poland; ORCID iD: 0000-0002-8139-8529;  
e-mail: [justyna.wozniak@pwr.edu.pl](mailto:justyna.wozniak@pwr.edu.pl)



© 2020. The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike International License (CC BY-SA 4.0, <http://creativecommons.org/licenses/by-sa/4.0/>), which permits use, distribution, and reproduction in any medium, provided that the Article is properly cited.

rich who manage and are responsible for general social purposes. In the context of Poland, it is worth mentioning the history of the pre-war industry of the Second Republic of Poland – a factory and a refinery of sugar in Chodorów. According to the press articles, this sugar factory was a model of “socially responsible business”, offering workers a generous offer of social services, including a special housing estate called “Kremerówka” (from the surname of the first director, Stanisław Kremer). A social club, a reading room, a music and theatre rehearsal room were created, and a factory orchestra was established. A sports park with a playground was built as well as an ice rink, shooting range and courts were also launched for children of the employees and for young employees. The sugar factory maintained its own, nearby road infrastructure, i.e. 10 km of paved roads. It financed the construction of folk houses in the neighboring villages, founded schools, and financed two sports clubs (Woźniak 2019).

The current perception of corporate social responsibility reflects the perception of 1950s. Howard Bowen, author of the book “Social Responsibilities of the Businessman” (1953), is considered the father of CSR. This, however, does not mean that before then the entrepreneurs did not act in a way which nowadays can be classified as socially responsible (financing of social welfare system, allocation of funds for charity). For decades the most visible manifestation of CSR was philanthropy. Over the years, researchers and entrepreneurs have begun to recognize that important matters in the context of CSR include: ecology, employee training, allocation of funds for education, art, urban investment or concern for civil rights (Carroll 2008). In the late 1970’s, CSR was defined as (Carroll 1979) corporate social responsibility including economic, legal, ethical and discretionary expectations of the society at a given point in time. Along with a growing interest in this topic, the definition has evolved, contributing to its improvement and clarification. Attempts were made to create a framework and criteria allowing for the operationalization of CSR. In the 1990s, a significant social development of responsibility in business practices was observed. In 1992, a non-profit organization called Business for Social Responsibility (BSR) was established (<http://www.bsr.org>). This organization currently cooperates with a network of more than 250 member companies and other partners in order to build a fair and sustainable world. It develops sustainable business strategies and solutions through consultation, research and cross-sector cooperation. BSR equips member companies in knowledge allowing them to design, implement and evaluate effective, socially responsible business practices. Currently, it focuses its activities on issues related to environmental protection, but also on issues such as energy and strengthening the position of women. Among the companies from the energy and mining group, BSR members include i.e. BP International Limited, Rio Tinto plc and Shell Oil Company. The turn of the century, when it comes to CSR, witnessed a focus on empirical research. It should be pointed out that especially in the years 2000, the CSR movement increased its range, becoming a global phenomenon. Interest and growth in the development and significance of CSR were most noticeable in European Economic Community. In 2001, the GREEN PAPER – Promoting a European framework for Corporate Social Responsibility (COM 2001) was published, presenting and clarifying the idea of CSR

(Pactwa 2019) at the European Union level. According to this definition CSR means the responsibility of enterprises for their impact on the society (Woźniak 2019).

The presented set of definitions is included in the scope of the applied research method – a survey addressed to former students (business environment) and current internal stakeholders (students) of the university. Similar research was conducted by other authors in the scope of combining the didactic process, including CSR courses with the business environment and social investment – responsible investment (SRI) (Formánková et al. 2019). The above mentioned projects, however, concerned universities that educate students in economics. The study presented in this article concerned the technical university (Faculty of Geoengineering, Mining and Geology at the Wrocław University of Science and Technology).

According to the analysis carried out by Pędziwiatr and Kulczycka, 2018, regarding the education program in the field of CSR for 18 Polish technical universities, it can be concluded that they do not fully take the currently transferred knowledge necessary in the context of current trends and market challenges into account. In addition, changes in the educational offer disseminating the idea of CSR combine with the strategy of University Social Responsibility (Geryk 2012; Jastrzębska and Przybysz 2019). According to the subject literature (Law et al. 2017) education on environmental protection affects the broadening of knowledge, changing the values and attitudes of employees, whose behaviors gradually become pro-ecological. Trainings increase the loyalty of employees towards the employer and their involvement in the initiatives for environmental protection. Knowledge should be passed not only in the form of training, but it should also be widely available in the form of materials disseminated among the staff. Activities in this area are part of the idea of corporate social responsibility and the implementation of sustainable development goals. However, one should not expect swift consequences of the trainings. Pellegrini et al. (2018) did not confirm the hypothesis that trainings and awards positively and directly affect the sustainable behavior of employees. According to the authors, the attitude of superiors, directors and managers is far more important for the implementation of pro-social and environmental practices. The active role of managerial staff translates into a change in the employees perception of importance of sustainable development for a company or an organization. This does not mean that one should give up training, but it proves that they are not a universal solution. The above (partly contradictory) conclusions indicate the legitimacy of taking up the topic.

## 1. Material and methods

The aim of the research was to collect and analyses data on respondents' opinions on the scope of mining sector activities related to corporate social responsibility (environmental and social aspect). The original questionnaire constituted a research tool. The respondents maintained their anonymity. The research was carried out in a traditional manner (questionnaire in paper form). The form was distributed amongst the respondents in person and

received after completion (the duration of the survey was about 10 minutes). Respondents were informed about the nature and purpose of the study. The survey included closed-ended questions, semi-open and open questions. The questions were drawn up on one page. The preparation of the questionnaire was preceded by a familiarization with the rules of creating surveys (i.e. Krok 2015). The tests were conducted from October to November 2018.

The completed surveys were received from 99 participating persons. This number was greater than the minimum representative sample size of 97. The minimum representative sample size was determined according to the following formula (Sobczyk 1995):

$$n \geq \frac{1}{4} \left( \frac{u_{\alpha/2}}{d} \right)^2$$

- $n$  – sample size,  
 $u$  – critical value of normal distribution,  
 $d$  – statistical error,  
 $\alpha$  = 0.05 (confidence level 0.95),  
 $d$  = 0.10 (statistical error 10%),  
 $u_{\alpha/2}$  = 1.96 (read from tables).  
 Result:  $n \geq 97$ .

The test sample was selected in a non-random way. Its representativeness should be considered preserved when the structure is similar to the structure of the statistical population from which it originates (CSO website). The structure of respondents by gender has been presented in Figure 1. In the entire data set, two groups of stakeholders have been designated:

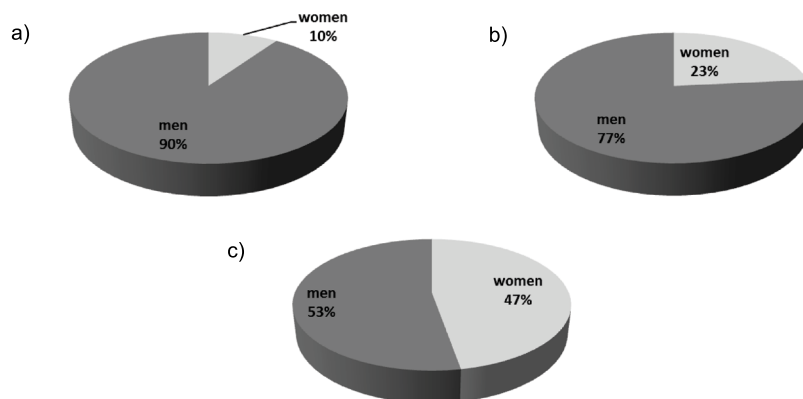


Fig. 1. Participation of women and men among the surveyed persons  
 a) in total, b) persons professionally active, c) full-time students; own study

Rys. 1. Udział kobiet i mężczyzn wśród ankietowanych osób  
 a) ogółem, b) osób czynnych zawodowo, c) studentów studiów stacjonarnych

internal (Fig. 1a) i.e. employees directly related to the enterprise (66 respondents) and external (Fig. 1b), students of technical universities (37) who will change their status in the future by undertaking employment in the mining industry, energy or related. A preliminary selection of completeness of the filling excluded 4 sheets in further analysis.

The share of women and men in the group of students predominantly belonging (95%) to the age group 19–24 corresponds to the population structure by sex in the same age group in the country, according to Statistics Poland in 2017 as of June 30 – women 51%, men 49%. Men dominate among internal stakeholders of mining enterprise. This is a result similar to the employment structure in the leading mining companies in Poland, such as KGHM or LW Bogdanka, and employment structures by gender in the mining and quarrying sectors – according to Statistics Poland data. Comparing the age structure of respondents in the group of internal stakeholders to the age structure of employees in mining companies, it was found that the group aged 31–37 was underrepresented ([KGHM Integrated Report 2016](#); [Integrated Report LW Bogdanka 2016](#); [CSO 2017](#); [Pactwa 2019](#)).

The main research goal of the questionnaires was to verify the level of employees' knowledge whether the company they are employed in is, in their opinion, environmentally and socially responsible, i.e., whether it carries out activities for the natural environment and engages in social activities among employees and the local community. Furthermore, which aspects according to this group of respondents are the most important from the proposed answers as far as CSR is concerned. In addition, what actions could the company undertake to improve the condition of the natural environment and the comfort of employees' work as well as improvement/maintaining the image on the market. The survey question required an industry specification in terms of the field which a given respondent represented: copper, metallurgy, coal mining, energy, mining of rock materials or other with an indication of this information.

In the context of the research goal of the questionnaire addressed to full-time students, was to define whether one's place of residence was located near a mining plant or the related industry and whether it was environmentally and socially responsible? Based on this survey, it was possible to determine whether the choice of the field of study related to mining was conscious and not coincidental. Are students familiar with the terminology of socially and environmentally responsible business? Moreover, do respondents think that the company engages in environmental and social activities among employees and the local community and what social actions could the company undertake in order to improve the condition of the natural environment as well as to improve the comfort (of employee's work) and the local community, further to improving/maintaining the image on the market ([Woźniak 2019](#)).

The questionnaire survey form can be found in Appendix 1.

## 2. Results

### 2.1. Detailed description of the surveyed stakeholder groups

The first question addressed to the business group of stakeholders was as follows: Do you work in the mining or related industry? The next question clarified the type of mine or other enterprise.

Among the responses received, 85% of the respondents represented the mining industry, while the remaining respondents were representatives of other industries, including financial institutions, the manufacturing industry, automotive, geodesy, trade, agriculture. The largest group comprised representatives of the copper industry, 48%. Subsequently, employees of lignite mines and other industries comprised 16%, respectively. Employees of the rock raw materials sector comprised 11%. While 5% of people were the employees of steelworks, the remaining respondents were the representatives of hard coal mining and the energy industry.

The second surveyed subgroup included the representatives of the academic community, students of the senior year of full-time engineering studies who were asked to express their opinion on companies located near their place of residence (question: Is your place of residence located near a mining or a related industry?). Most of them come from areas near a mining plant, 97%. A large group of respondents – 52% reported living near a company that exploits and processes copper (including 32% in vicinity of mines, and 20% in the neighborhood of smelters), others – 39% near the rock raw materials mines and 5% near lignite mines (and power plants). No respondent declared place of residence near a coal mine. (Fig. 2).

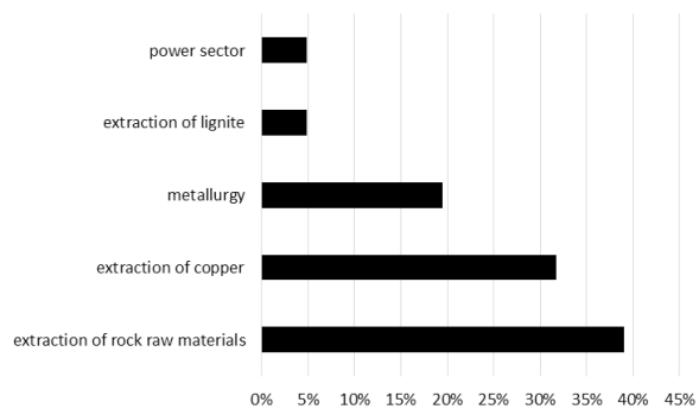


Fig. 2. Graphical interpretation of the survey among stakeholders of the academic circle – full-time students – question 1; own study

Rys. 2. Interpretacja graficzna ankiety wśród interesariuszy środowiska akademickiego – studentów stacjonarnych – pytanie 1

## 2.2. The scope of actions complying to CSR in the awareness of stakeholders

The next question asked in the survey: Do you think that the company is socially and environmentally responsible (the idea of CSR)? (possible answers: yes, no, I don't know) the majority – 72% of respondents answered in the affirmative, 25% have no opinion about it and 3% think that the company does not meet the CSR (Corporate Social Responsibility) requirements. Moreover, many people professionally associated with the KGHM group KGHM Polska Miedz SA (copper mining and processing), constituting the largest subgroup among the surveyed representatives of the mining industry, have no opinion about the company's involvement in environmental and social issues. Thus, it means that there are employees who do not know the issues of CSR and do not identify the activities carried out by the company with this idea. The survey included opinions of business stakeholders employed in various positions, possessing a secondary education, engineering or Master's degree. It can be assumed that not everyone is aware of the existence and implementation of corporate social responsibility practices and sustainable development goals.

A total of 45% of people living close to companies representing the mining sector believe that the company located in the vicinity is socially and environmentally responsible, 7% of the responders are of the opposite opinion, and as many as 48% have no opinion on this topic. This means that a large proportion of students of mining and geology did not gain enough knowledge on CSR and Sustainable Development (SD) during their education. They do not know which enterprises have the obligation to report CSR activities and whether they do so. This is an indication that future issues related to responsible business and sustainable development should be included in the plans of education in this field.

Analyzing this result in the context of the type of mining plant, which according to the respondents does not deserve the socio-environmental responsible reputation, there were individual groups of plants: mining rock materials (71%), smelters (36%), copper ore mining (29%), energy-producing facilities (14%) and a large-scale lignite mine (7%). A definite answer was NOT given by students living near a copper mine and smelter.

## 2.3. Environmental aspect in the opinion of stakeholders

The next questions in the questionnaire was related to the company's activities for the environment (question: Does the company conduct activities for the of benefit the natural environment?). The respondents chose from three options, but they could also give a different form of pro-environmental activities carried out by the employer (each of the respondents could circle more than one answer). The collected results are presented on Figure 3.

A total of 47% of the respondents representing the mining and related sectors chose two options – concerning atmospheric air pollution (“reducing the emission of harmful gases and particulates over the years”) and environmental pollution (“taking measures in case of exceeding environmental standards”). These variants of responses were next to each other in

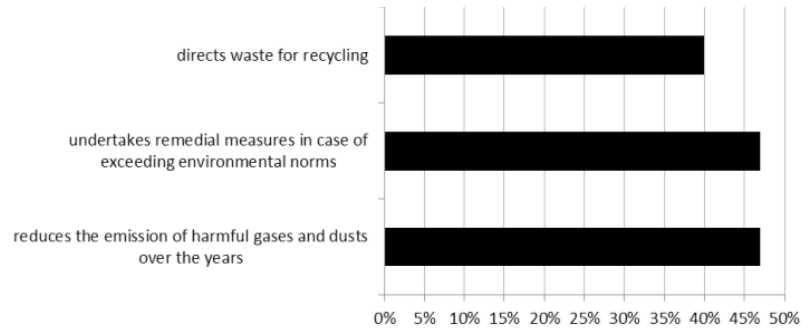


Fig. 3. The scope of pro-environmental activities carried out by mining enterprises (collectively) based on the employees' opinions; own study

Rys. 3. Zakres działań prośrodowiskowych prowadzonych przez przedsiębiorstwa górnicze (łącznie) na podstawie opinii pracowników

one line in the form, which is why the respondents might have the impression that they refer to one type of pollution. The third option, i.e. the possibility of recycling the waste (“(the company) directs the waste to be recycled”) was chosen by 40% of people. This is particularly interesting considering the fact that the majority of respondents work at KGHM, in which waste from flotation enrichment is disposed of by landfilling. It is possible that employees do not identify waste management only with mining waste, and directing waste for recycling refers to municipal waste, while the enterprise segregates waste.

The last two questions concerned environmental activities that the company could take out of concern for the natural environment and actions to improve and/or maintain the image (questions: What environmental action do you think the company could take with regard to environmental protection? What environmental actions do you think the company could take to improve/maintain the image on the market?). The respondents' suggestions regarding environmental protection were as follows:

- ◆ reducing the emission of harmful gases and particulates (the opinion taken from the previous question referring to the currently implemented activities by the company),
- ◆ recycling (as above),
- ◆ new technologies in waste management,
- ◆ waste sorting,
- ◆ limiting the usage of paper,
- ◆ abandonment of the paper form of documents.
- ◆ In relation to maintaining the image:
  - ◆ electric company cars,
  - ◆ processing of flotation waste (Zelazny Most Reservoir – KGHM facility),
  - ◆ improving cleanliness in the plant by more frequent garbage removal,
  - ◆ better protection of landfills,
  - ◆ implementation of the systemic approach in the area of environmental protection,



- ◆ reduction of oil pollution,
- ◆ abandonment of paper form of documents,
- ◆ expanded cooperation with the scientific community.

Some respondents believed that enterprises belonging to the mining sector carry out sufficient activities serving the natural environment.

On the basis of the presented proposals, it can be concluded that the pro-environmental efforts of companies in the opinion of the respondents concern activities closely related to mining and processing (e.g. harmful emissions, the issue of mining waste) as well as the day-to-day functioning of enterprises, including office and administration work (e.g. abandonment of paper form of documents, more frequent removal of municipal waste).

The question about the activities carried out by the company for the natural environment was not answered by all respondents. They did not choose any of the proposed options and did not provide their own solutions. This can be explained in two ways – according to them, the company does not run this kind of activity or they don't have sufficient knowledge about this topic (which is more likely, given the previous question about CSR awareness).

Similarly as in the case of professionally active people, students also had the possibility to circle more than one answer. The collected results were presented on the chart (Fig. 4).

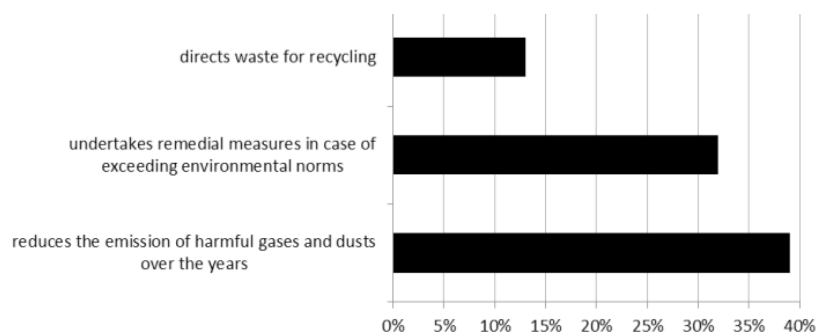


Fig. 4. The scope of implementation of pro-environmental activities by mining enterprises based on the opinions of students (who live near mining companies); own study

Rys. 4. Zakres realizacji działań prośrodowiskowych przez przedsiębiorstwa górnicze (łącznie) na podstawie opinii studentów (mieszkających w pobliżu firm sektora górniczego)

The respondents' suggestions regarding suggested pro-environmental activities were as follows:

- ◆ reduction of particulates emissions,
- ◆ reclamation of post-mining areas,
- ◆ reducing the amount of car transport (in regard to mines of rock raw materials),
- ◆ planting trees in the vicinity, afforestation of land, creation of parks,
- ◆ installation of solar panels in a hotel near the mine,
- ◆ re-processing or use of mining waste.

And in terms of taking care of the company image:

- ◆ more accurate reclamation activities,
- ◆ better management of the Zelazny Most reservoir,
- ◆ resisting the ecological lobby,
- ◆ taking care of the roads condition improvement,
- ◆ improvement of air quality.

Some respondents stated that the activities of companies for environmental protection are sufficient and no additional activity in this area is required.

In contrast to the group of employees, students identify pro-environmental activities primarily through the prism of the basic activity of mining companies, and thus related to the production of raw materials and energy. They mainly emphasize the need for reducing emissions, processing of mining waste and carrying out reclamation (Pactwa 2019).

#### 2.4. Social aspect in the opinion of stakeholders

Another question addressed to the respondents was: Does the company engage in social activities of employees and the local community? Possible answers: social/medical programs for employees, occasional financial support; employee training, good employment policy; development of local infrastructure, public policy and positive relations with the local community; meetings/picnics/concerts for employees; other ...

The most popular answer was direct employee benefits, i.e. medical packages and social programs, occasional financial support (38%), and socio-cultural integration 25% (Fig. 5).

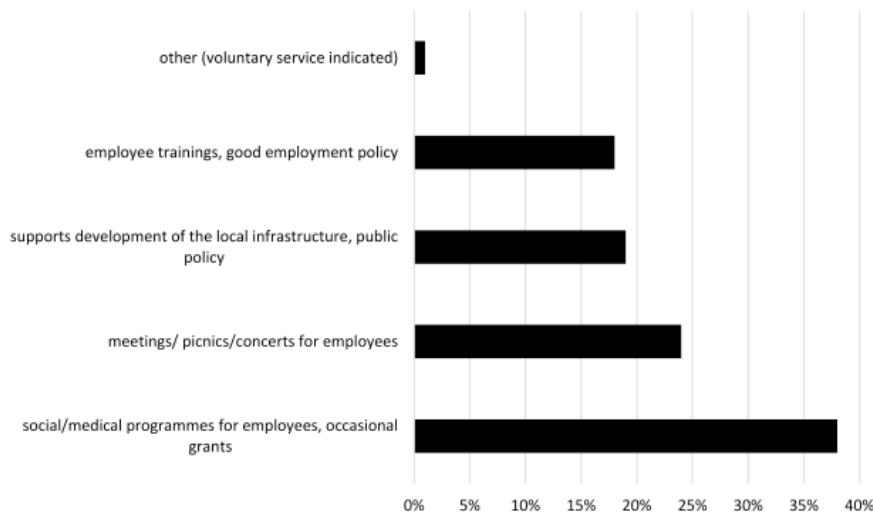


Fig. 5. Graphical presentation of the survey for employees and students of extramural studies – question 3; own study

Rys. 5. Graficzna prezentacja ankiety wśród pracowników i studentów studiów niestacjonarnych – pytanie 3

In the next place, business stakeholders notice the involvement of their employers in the development of local infrastructure (19%), public policy and positive relations with the local community and similarly the employment stability and training issues (18%). Volunteering (lignite) was entered in the “other social initiatives” blank space.

When analyzing the results of the survey in the context of industries, social and medical programs are observable in the copper industry (41%), rock mining and metallurgy (23% each). Cultural and entertainment integration is financed from the copper tycoon’s budget – KGHM (53% of employees), smelters (18%), to a lesser extent lignite industry and others (12% each). Infrastructure development support is visible in the environment of copper mining (57%) and rock raw materials and energy (14% each). Employees’ training is declared by 50% of representatives of other industries. In the mining industry, there is clearly less activity in these practices (raw materials and lignite 20%, copper 10%).

Another open question: What environmental actions do you think the company could take to improve the comfort of work? Questions of this type are reluctantly filled out and often overlooked by respondents. The answers received from employees (and part-time students) included:

- ◆ training of non-managerial employees (representatives of rock mining, two men of 24–30 and 38–44 years old),
- ◆ more professional trainings are expected by a representative of lignite mine (38–44 years old),
- ◆ new office work equipment (a woman 24–30 years old from hard coal industry),
- ◆ staff rest area, free coffee and tea (a man 31–37 years old, working in smelters),
- ◆ free health care is an initiative indicated by an employee (31–37 years old) of a hard coal mine,
- ◆ medical services have been reported by an employee of the rock mining (<24 years old),
- ◆ higher workplace culture among lignite mining workers (a man of 24–30 years old),
- ◆ increase in remuneration was proposed by young workers (<24 years old) of the copper and lignite industry,
- ◆ better communication between plants in the copper industry (an employee 24–30 years old),
- ◆ increased integration of employees or better organization of working hours (weekly),
- ◆ a foreign language classes for all employees in order to better communicate in an international company focused on sale, which was signaled by a woman of 24–30 years old. In the trade sector, an employee (24–60 years old) mentioned an advertisement focused on authorized sales products,
- ◆ greater social awareness about Polish products (male 24–30 years old, representing the automotive industry).

The answers to the open question included statements like “it is ok” or “I do not know”.

The last open question regarding social issues reads as follows: what social activities do you think the company could take to improve/maintain the image on the market? The answers included:

- ◆ engaging in nationwide charity campaigns (“Szlachetna Paczka”) supporting families of employees,
- ◆ recruitment of qualified employees, greater involvement in the development of small communes and the timely execution of orders (copper workers aged 24–30),
- ◆ investments in youth development (an employee of a company producing mining machines aged 31–37),
- ◆ marketing, sponsorship, better PR – an employee of the rock raw materials industry (aged 38–44),
- ◆ higher wages in metallurgy (a man aged 24–30),
- ◆ reduction of the emission of particulates in a lignite mine and change of management (a man 24–30; a man < 24),
- ◆ trainings – an employee of the government administration (aged 59–60),
- ◆ matching the offer of services to customer needs in the service industry (a man 24–30).

As in the case of the previous question, laconic statements were given also in this question: I have no opinion, it does not apply in the blank space for answers to the question regarding the improvement/maintaining the image of the employer,.

Full-time students answered the following questions: Does the company engage in social activities (of employees) and the local community? 5 possible answers (as in the question addressed to a group of employees). The most frequently chosen answers were the organization of integration events (29%), of which 35% was constituted by students living near the smelters and mines of rock raw materials (18% copper). Occasional financial support was indicated by 27% of respondents connected with the raw materials and copper industry (33%) and metallurgy (29%). Similarly, 23% stated social and medical benefits, in terms of general social initiatives. The choice of these answers indicates that probably some family members of full-time students are people working in particular fields of the mining industry. In the opinion of this group of respondents, mining entities support the development of local infrastructure. Among the responses, 20% stated that mining entities engage in local matters (including 38% metallurgy, 25% copper, 19% rock raw materials, 13% lignite).

Another question: What social activities do you think the company could take to improve/maintain the image on the market? This question was answered in an open form on 14 sheets, and the answers included:

- ◆ reduction of noise and lorry traffic (rock mining),
- ◆ greater involvement in city development, urban investments, infrastructure development (copper, metallurgy, energy),
- ◆ co-financing for local education (rock mining),
- ◆ investing in young employees, limiting the role of trade unions (lignite, energy),
- ◆ charity, pro-social and sports activities, sponsorship (copper, rock),
- ◆ advertising, promotional actions (copper, rock mining).

To sum up the surveys of full-time students, the majority of people (97%) choosing the mining and geology field of study come from areas adjacent to mining operations (the choice of the field of study was not random). These are mainly the areas of KGHM’s operations

(mines and smelters) and mining of rock raw materials. In the context of the implementation of the research objective – whether the respondents believe that a given plant is socially responsible, the opinions were divided. The most popular answers were: “yes” (45%) and “I have no opinion” (48%), and 7% of respondents believed that the mining industry is absolutely not identified as socially responsible. Moreover, regarding the involvement of these entities in social initiatives and the local community, occasional events, financial support for employees, social and medical programs (which suggests that they indirectly may be their beneficiaries), and the noticeable development of local infrastructure were indicated. The propositions of social operations, which in the opinion of this group of respondents companies should take to improve its image on the market (and the quality of life of the surrounding population), included the minimization of the direct impact of operational activities (intensity of cyclical transport of excavated material) or development of infrastructure (Woźniak 2019).

## Discussion and conclusion

The presented results of the conducted surveys clearly indicate a unique nature aimed at improving the quality of education of students at technical universities, and as a consequence, raising the awareness of CSR issues among employees. The respondents represented the broadly understood mining industry as a combination of the industry (group of employees) and students of mining and geology. Taking the general structure of the leading university in Poland – Wrocław University of Science and Technology into account, the Faculty of Geoengineering, Mining and Geology (student surveys were conducted here), is one of 16 faculties (more information on the website <https://pwr.edu.pl/en/>). The rich business offer of employees is an example of good practices of combining the knowledge resources of university employees with a knowledge-based economy. The current and important direction of research at the faculty is the trend of sustainable development (Pactwa et al. 2018) and non-financial reporting (Pactwa 2019; Woźniak 2019) based on SD and CSR, and the effects of the gradual introduction of this subject to the study program are visible in the survey results. Students had little knowledge of the concept of corporate social responsibility. Nevertheless, it is necessary to supplement the course of studies by implementing new didactic courses (at technical universities they should be obligatory) in order to implement the CSR concept, so that the current and future activities are conscious, long-term and go beyond the basic operational activity of the unit. Building a long-term strategy both in the educational process and in the academic environment fosters this phenomenon (Woźniak 2019).

The survey concerned opinions about enterprises that respondents know because of their close location, which facilitated the answer to the questions. Also mining technical studies are conducive to having a broader opinion about the industry. As a supplement to the research, the authors of the article suggest conducting a survey among students of other fields.

The results in the group of internal stakeholders concern mostly copper industry employees (48%), which translates into the local nature of the research and directs authors to continue research in more diverse types of mining enterprises. The aspect of corporate responsibility for the environment exists in the public awareness. However, this is still basic knowledge and it needs to be supplemented. It should be noted that the research involved a group related to the mining sector, which should be aware of the activity of companies representing the mining, processing and energy industries for sustainable development. Based on the obtained results, it can be concluded that education in the field of SD and CSR is advisable. Issues regarding the mining sector's responsibility for the environment are perceived and understood by the two surveyed groups in a slightly different way. The opinion of students is a bit more critical and refers to activities related primarily to mining, production and transport and their negative impact on the natural environment. Opinions of business stakeholders are less categorical and often refer to matters related to the daily functioning of companies. This may be influenced by the identification of employees with a company that offers stable employment and is often the only place of work, and the termination of the contract results from retirement (Pactwa 2019).

*This scientific work was financed within Statute Research Studies No. 049U/0098/19.*

## Appendix 1

- 1(Business group). Do you work in the mining or related industry?** YES; NO
- 1(Students). Is your place of residence located near a mining or a related industry?** YES; NO
- 2. The type of mine or other enterprise:**
- EXTRACTION OF COPPER;
  - EXTRACTION OF HARD COAL;
  - EXTRACTION OF LIGNITE;
  - EXTRACTION OF ROCK RAW MATERIALS;
  - POWER SECTOR;
  - METALLURGY;
  - OTHER ENTERPRISE, WHAT?
- 3. Do you think that the company is socially and environmentally responsible (the idea of CSR)?**  
YES; NO; I DON'T KNOW
- 4. Does the company conduct activities for the benefit the natural environment?**
- REDUCES THE EMISSION OF HARMFUL GASES AND PARTICULATES OVER THE YEARS;
  - UNDERTAKES REMEDIAL MEASURES IN CASE OF EXCEEDING ENVIRONMENTAL NORMS;
  - DIRECTS WASTE FOR RECYCLING;
  - OTHER ...
- 6. What environmental action do you think the company could take with regard to environmental protection; to improve/maintain the image on the market? ...**

**8. Does the company engage in social activities of employees and the local community**

- SOCIAL/MEDICAL PROGRAMS FOR EMPLOYEES, OCCASIONAL GRANTS;
- EMPLOYEE TRAININGS, GOOD EMPLOYMENT POLICY;
- SUPPORTS DEVELOPMENT OF THE LOCAL INFRASTRUCTURE, PUBLIC POLICY;
- MEETINGS/PICNICS/CONCERTS FOR EMPLOYEES;
- OTHER ...

**9. What social activities do you think the company could take to improve/maintain the image on the market? ...**

METRICS

**10. SEX**

WOMAN

MEN

**11. AGE** <24; 24–30; 31–37; 38–44; 45–51; 52–58, 59–65; <65**REFERENCES**

- Carroll, A.B. 1979. A Three-Dimensional Conceptual Model of Corporate Performance. *The Academy of Management Review* 4(4), pp. 497–505, Published by: Academy of Management.
- Carroll, A.B. 2008. *A History of Corporate Social Responsibility: Concepts and Practices*. In Andrew Crane, Abigail McWilliams, Dirk Matten, Jeremy Moon & Donald Siegel eds. *The Oxford Handbook of Corporate Social Responsibility*. Oxford University Press, pp. 19–46.
- COM (2001) 366 GREEN PAPER – Promoting a European framework for Corporate Social Responsibility Commission Of The European Communities Brussels, 18 July 2001.
- CSO (2017) Employment in national economy in 2016. Statistical Information and Elaborations. (*CSO (2017) Central Statistical Office Pracujący w gospodarce narodowej w 2016 r. Informacje i opracowania statystyczne*). Warszawa. p. 142 (*in Polish*).
- CSO website. [Online] <https://stat.gov.pl/metainformacje/slownik-pojec/pojecia-stosowane-w-statystyce-publicznej/2771,pojecie.html> [Accessed: 08.01.2020]
- Formánková et al. 2019 – Formánková, S., Trenz, O., Faldík, O., Kolomazník, J. and Sládková, J. 2019. Millennials' Awareness and Approach to Social Responsibility and Investment–Case Study of the Czech Republic. *Sustainability* 11(2), p. 504.
- Geryk, M. 2012. Social responsibility of the university (*Spoleczna odpowiedzialność uczelni*). Warszawa: Oficyna Wydawnicza SGH (*in Polish*).
- Global Compact Yearbook Polska 2015/2016. [Online] [http://ungc.org.pl/wp-content/uploads/2016/01/Yearbook-2015\\_-final.pdf](http://ungc.org.pl/wp-content/uploads/2016/01/Yearbook-2015_-final.pdf) [Accessed: 2018-10-11].
- Integrated Report GK LW Bogdanka S.A. 2016. [Online] [www.lw.com.pl](http://www.lw.com.pl) [Accessed: 2018-01-07].
- Integrated Report 2016 KGHM. PM. [Online] [kghm.com](http://www.kghm.com) [Accessed: 2017-12-07].
- Jastrzębska, E. and Przybysz, M. 2019. Social responsibility – importance for universities and implementation methods (*Spoleczna odpowiedzialność znaczenie dla uczelni i sposoby wdrażania*). [Online] <https://www.gov.pl/web/fundusze-regiony/grupa-robocza-ds-spoecznej-odpowiedzialnosci-uczelni> [Accessed: 2020-01-08] (*in Polish*).
- Jenkins, H. and Yakovleva, N. 2006. Corporate social responsibility in the mining industry: Exploring trends in social and environmental disclosure. *Journal of Cleaner Production* 14(3–4), pp. 271–284, DOI: 10.1016/j.jclepro.2004.10.004.
- Krok, E. 2015. Survey questionnaire structure and its impact on the research results (*Budowa kwestionariusza ankietowego a wyniki badań*). *Zeszyty Naukowe Uniwersytetu Szczecińskiego* No. 874, *Studia Informatica* No. 37, pp. 55–73 (*in Polish*).

- [Online] <http://www.bsr.org> – Business for Social Responsibility website [Accessed: 2018-09-09].
- [Online] <https://pwr.edu.pl/en/> – WUST website [Accessed: 2019-03-01].
- [Online] <https://stat.gov.pl/metainformacje/slownik-pojec/pojecia-stosowane-w-statystyce-publicznej/2771,pojecie.html> – Central Statistical Office website [Accessed: 2020-01-07].
- Pactwa et al. 2018 – Pactwa, K., Woźniak, J. and Strempek, A. 2018. Sustainable mining – Challenge of Polish mines. *Resources Policy* 176. DOI: 10.1016/j.resourpol.2018.09.009.
- Pactwa, K. 2019. *Scope of implementation of sustainable development goals by the mining sector in Poland (Zakres realizacji celów zrównoważonego rozwoju przez sektor górniczy)*. Wrocław: University of Science and Technology (in Polish).
- Pellegrini et al. 2018 – Pellegrini, C., Rizzi, F. and Frey, M. 2018. The role of sustainable human resource practices in influencing employee behavior for corporate sustainability. *Business Strategy and the Environment* 27, pp. 1221–1232. [Online] <https://doi.org/10.1002/bse.2064>.
- Pędziwiatr, E. and Kulczycka, J. 2018. Corporate Social Responsibility Education in Polish Technical Universities (*Oferta edukacyjna polskich uczelni technicznych w obszarze CSR*). *Horyzonty Wychowania* 17(44), pp. 93–102. DOI: 10.17399/HW.2018.174409.
- Pietrzyk-Sokulska et al. 2015 – Pietrzyk-Sokulska, E., Uberman, R. and Kulczycka, J. 2015. The impact of mining on the environment in Poland—myths and reality. *Gospodarka Surowcami Mineralnymi – Mineral Resources Management* 31(1), pp. 45–64.
- Que et al. 2019 – Que, S., Wang, L., Awuah-Offei, K., Yang, W. and Jiang, H. 2019. Corporate Social Responsibility: understanding the mining stakeholder with a case study. *Sustainability* 11(8), 2407. [Online] <https://doi.org/10.3390/su11082407>
- Sobczyk, M. 1995. *Statistics (Statystyka)*. Warszawa: PWN p.151 (in Polish).
- Witek-Crabb, A. 2019. CSR Maturity in Polish Listed Companies: A Qualitative Diagnosis Based on a Progression Model. *Sustainability* 11(6), pp. 1736. [Online] <https://doi.org/10.3390/su11061736>.
- Woźniak, J. 2019. *The role and implementation of the concept of social responsibility in the functioning of mining and energy industry (Rola i implementacja koncepcji społecznej odpowiedzialności w funkcjonowaniu branży wydobywczej i energetycznej)*. Wrocław: University of Science and Technology (in Polish).

#### KNOWLEDGE OF CSR ISSUES AMONG MINING BUSINESS STAKEHOLDERS AND THE ACADEMIC ENVIRONMENT – CASE STUDY FROM POLAND

#### Keywords

corporate social responsibility (CSR), sustainable development (SD), mining

#### Abstract

The presented article touches upon corporate social responsibility, a topic of a current and interdisciplinary nature. The aim of the article was to examine the CSR knowledge of two groups of stakeholders and indicate the need to include issues related to sustainable social and environmental responsibility in the technical study program. The research conducted within this domain have been the first results obtained among the academic communities of a technical university and employees in Poland who are the representatives of a selected business group, i.e. the mining sector. The obtained results are the effect of combining scientific research with the business environment. The main part of the article constitutes a description, course and results of the applied research method, which is a survey carried out amongst the selected target groups. The authors' intention was to list



the results obtained in two contexts: environmental and social. The conclusions of these studies are of a utilitarian nature, following towards the need to consider issues concerning sustainable social and environmental responsibility in the program of technical studies (as obligatory subjects). The authors argue that the increase in knowledge will be accompanied by an increase in awareness among (future) industry employees and among the public. This may mean an increase in expectations towards enterprises, which will result in raising standards both when it comes to aspects related to the natural environment, working conditions, and social dialogue.

#### ZNAJOMOŚĆ ZAGADNIEŃ CSR WŚRÓD INTERESARIUSZY BRANŻY WYDOBYWCZEJ I ŚRODOWISKA AKADEMICKIEGO – STUDIUM PRZYPADKU Z POLSKI

##### Słowa kluczowe

społeczna odpowiedzialność biznesu, zrównoważony rozwój, górnictwo

##### Streszczenie

Prezentowany artykuł dotyczy społecznej odpowiedzialności biznesu, aktualnego tematu o charakterze interdyscyplinarnym. Celem artykułu było zbadanie wiedzy na temat CSR w dwóch grupach interesariuszy i wskazanie potrzeby włączenia zagadnień związanych ze zrównoważoną odpowiedzialnością społeczną i środowiskową do programu studiów technicznych. Przeprowadzone badania w tej dziedzinie były pierwszymi wynikami uzyskanymi wśród środowisk akademickich uczelni technicznej i pracowników w Polsce, którzy są przedstawicielami wybranej grupy biznesowej, tj. sektora wydobywczego. Uzyskane wyniki to efekt łączenia badań naukowych ze środowiskiem biznesowym. Zasadniczą część artykułu stanowi opis, przebieg i wyniki zastosowanej metody badawczej, która jest ankietą przeprowadzoną wśród wybranych grup docelowych. Zamiarem autorów było wyszczególnienie wyników uzyskanych w dwóch kontekstach: środowiskowym i społecznym. Wnioski z tych badań mają charakter użyteczny i wynikają z konieczności uwzględnienia kwestii dotyczących zrównoważonej odpowiedzialności społecznej i środowiskowej w programie studiów technicznych (jako przedmiotów obowiązkowych). Autorzy przekonują, że zwiększeniu wiedzy towarzyszyć będzie wzrost świadomości wśród (przyszłych) pracowników branży oraz wśród społeczeństwa. Może to oznaczać zwiększenie oczekiwań względem przedsiębiorstw, co przyniesie skutek w postaci podnoszenia standardów zarówno jeżeli mowa o aspektach dotyczących środowiska przyrodniczego, warunków pracy, jak i dialogu społecznego.

