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CSR in mission statements of Polish chemical industry companies (content analysis results)

1. Introduction

The chemical industry spawns products directly affecting the natural environment and people's quality of life (Sun and Stuebs, 2013). It also entails a broad range of threats, the scale of which may be catastrophic (Dabrowski, 2012). As a result, businesses forming part of this industry are burdened with high environmental and social risk, while chemical companies are subject to substantial public pressure and scrutiny. In other words, the chemical industry experiences significant reputational risk. Reputation, defined as a stable form of image based on a cumulative and permanent set of attributes assessed over a longer period of time (Gioia et al. 2013; cf. Gray and Balmer, 1998), is a key resource for contemporary organizations, which is why a proactive approach towards reputational risk is pivotal. One way to do that is by implementing a CSR policy (Dabrowski, 2012).

Corporate social responsibility in the chemical industry, itself a very specific sector, is eagerly discussed in the literature (Dąbrowski and Majchrzak, 2014; Grunwald, 2019; Hys and Wolniak, 2018; Lock and

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Seele, 2015; Sun and Stuebs, 2013; Tetřevová, 2013; Verboven, 2011; Vorboven 2012; Verboven and van Bets, 2013; Zimara and Eidam, 2015), with many opportunities and potential benefits of applying the CSR concept having been explored since.

CSR can be built into a company's strategy and values communicated in its mission statement. The latter is a useful communication tool for the company to influence their internal and external stakeholders (cf. Bartkus et al. 2004; Campbell, 1997; Kemp and Dwyer, 2003; Law and Breznik, 2018; Lin et al. 2018; Lin and Ryan, 2016). It prioritizes values held dear by the organization (Helmig et al. 2015) and is a way to express organizational identity (Cunningham et al. 2009; Gauthier and Josien, 2017; Gray and Balmer, 1998; Hirota et al. 2010; Leuthesser and Kohli, 1997; Stuart 1999; Moss et al. 2010; Scherer, 2017). That also explains why mission statements have become a standalone research subject, including with reference to CSR. One such example is the study by Penco et al. (2019; cf. Bartkus and Glassman, 2008; Fifka et al. 2018) which found a link between the content of a mission statement related to stakeholders and the CSR and environmental performance of a firm. Research has also addressed chemical companies explicitly, including the analysis of communicating CSR and business identity in the chemical industry through mission slogans (Verboven, 2011; cf. Verboven and van Bets, 2013).

No studies, however, seem to have explored the mission statements of Polish chemical industry companies in terms of how these communicate CSR. With the presented article, the authors aim to fill this research gap. Thus, they are taking action in accordance with the conclusion of Cortés (2022, p. 1), who noted that 'research on missions has been prolific over the past 30 years, nevertheless several empirical gaps remain, such as single sector or country studies and restricted mission samples'.

Let us note that the chemical industry in Poland is not only manufacturing companies. Chemical distribution organizations (which supply the fragmented market of small-scale chemical manufacturers, offer additional services and provide additional value to the products distributed) and raw material and product logistics companies (which facilitate the continuity of production at chemical and fuel segment plants) are also important (see more: Abramczyk 2017; PIPC 2018).

In the literature, similarities and differences between manufacturing and service companies are described (e.g. Atsuyuki, 2010; Johnston et al. 2003; Muhlemann et al. 1992; Niedzielski and Rychlik, 2007; Zhou et al. 2009). In the course of our own research, we examined whether such similarities/differences

could be seen in the case of CSR declaration in the mission statement of chemical business entities (representing the chemical industry vs. services and/or commercial).

The purpose of the article was to determine: 1. the types of values which chemical industry companies in Poland display in their mission statements, 2. if chemical industry companies in Poland display CSR values in their mission statements, 3. if these companies differ from others operating in the chemical sector¹ in Poland in terms of displaying CSR in mission statements.

The article is divided into the following sections: introduction, literature review, methods, results, and conclusion.

2. Chemical companies and socio-environmental challenges

The chemical industry consists of the chemical and fuel segments. It can be divided into four basic areas: commodity chemicals (plastics, fertilizers and nitrogen compounds, technical gases, chemical fibers, etc.), chemical processing (plastic products, paints, varnishes and adhesives, rubber products, etc.), fuels and refined-petroleum products, and 'low-charge' chemicals (pharmaceuticals, household chemicals, plant protection chemicals, etc.).

Contemporary chemical companies are facing various challenges, the most important of which are those related to the neutral environmental footprint. A study conducted by the Polish Chamber of Chemical Industry found that ecology is now among the top trends in Poland (PIPC, 2018), so much so that every fifth respondent (20%) recognized it as the key business driver industrywise. Pro-environmental initiatives may therefore arise from the values communicated by companies as they may from the sheer willingness to meet the consumer megatrend of growing environmental awareness and making environmentally-conscious purchasing decisions. Equally important in all this is the necessity to constantly adapt to legal regulations, including EU policies. The European Green Deal (COM/2019/640) goes as far as to formulate the goal of improved protection of human health and the environment by combating pollution from all sources and creating a toxin-free environment. One of the more recent documents outlining the path of development for the chemical sector is the EC's 2020 Chemicals Strategy for Sustainability Towards a Toxic-Free Environment (COM(2020)667) which puts forward the concept of the hierarchy

1 Services and/or commercial.

of non-toxicity measures and spurs a new hierarchy in the management of chemicals, which includes, among others: 1. promoting safe and clean recycling solutions, 2. promoting the development of safe and sustainable chemicals and materials, clean production processes and technologies, 3. promoting modern and smart production processes, safe and sustainable uses and business models, chemicals as a service, IT solutions for tracking of chemicals.

Having said that, environmental responsibility is not the only thing that motivates chemical companies, and the importance of social responsibility is shown to be on the rise (Verboven, 2011; Tetřevová, 2013; CEFIC, 2014; Zimara and Eidam, 2015). Since chemical companies tend to rely on a B2B model of doing business and rarely deliver their products to end customers, the public lacks sufficient awareness of the benefits of their activities, while building a positive attitude through product satisfaction is hindered for those companies (Verboven, 2011, p. 420).

Requirements for environmental and social action pose a significant challenge to chemical companies, and their commitment may be autotelic as well as instrumental. It is pointed out that demonstrating environmental and social commitment gives chemical companies a competitive advantage over companies from other sectors, thereby enabling them to effectively compete for human resources (CEFIC, 2014).

3. CSR concept

Corporate social responsibility is a concept developed largely in the 1950s. The very term 'CSR' was first coined in Bowen's *Social Responsibilities of the Businessmen* (1953, as cited in: Tran, 2014, p. 3) where it is defined as "the obligations of businessmen to pursue those policies, to make those policies, or to follow those lines of actions that are desirable in terms of the objectives and value of our society".

The 1990s brought increased interest in CSR. One of the key CSR researchers was Carroll (1991), who distinguished four categories of corporate responsibility: 1) economic responsibility, which is the basis for the remaining levels of the pyramid; 2) legal responsibility (liability); 3) ethical responsibility, which shapes the company's behaviour beyond the obligations resulting from legal compliance; and 4) philanthropic responsibility concerning contribution to improved quality of life in a society.

The need to link socially responsible actions with the corporate strategy was emphasized, among others, by Burke and Logsdon (1996, p. 497). They identified

five areas of strategic CSR that are necessary to achieve business goals as well as to create value: 1) centrality - the closeness of fit to the firm's mission and objectives; 2) specificity - the ability to capture private benefits by the firm; 3) proactivity - degree to which the program is planned in anticipation of emerging social trends and in the absence of crisis; 4) voluntarism - the scope for discretionary decision making process and the lack of externally imposed compliance requirements, and; 5) visibility - observable, recognizable credit by internal and/or external stakeholders for the firm.

Elkington (1994) also contributed to the CSR debate by presenting the concept of the 'Triple Bottom Line' as a sustainability framework that balances a company's social, environmental and economic impact. He emphasized that the way to achieve excellent performance on the Triple Bottom Line (social, environmental and economic) is through effective and long-term partnerships between the private and public sectors, as well as between stakeholders (Elkington 1998). Companies should behave in a socially and environmentally responsible manner that can be positively balanced with economic objectives.

A pioneering EU document concerning corporate social responsibility was the 2001 Green Paper that defines social responsibility as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (Green Paper. Promoting a European... 2001, p. 6; COM(2001) 366). This definition was further elaborated in the EC's Communication on corporate social responsibility - the White Paper. It emphasizes that only voluntary initiatives (rather than those dictated by formal and legal requirements) shall be perceived as a display of social values (Communication from the Commission of the European Communities... 2002, p. 5, COM(2002)347). Meanwhile, in a definition provided by the International Organization for Standardization ISO 26000 (International Organization for Standardization, 2010, p. 3), social responsibility is termed as the "responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that - contributes to sustainable development, including health and the welfare of society; – takes into account the expectations of stakeholders; – is in compliance with applicable law and consistent with international norms of behaviour; and – is integrated throughout the organization and practised in its relationships". According to this standard, the key areas of social responsibility include: corporate governance, human rights, labour rights, the environment, fair business practices, consumer issues, as well as social commitment and community promotion.

Currently, the literature abounds in concepts, models and views on what corporate social responsibility is and may soon be. According to some experts, 'a higher level of CSR', also referred to as CSR 2.0, is already evolving into CSR 3.0 (Turoń and Czech, 2017; cf. Visser, 2011). The concept of CSR 2.0 is based on five key assumptions: connectedness, scalability, responsiveness, duality, and circularity (for more, see Visser 2011). CSR 3.0 itself is a product of the creative destruction of values following the 2008 crisis. The companies that survived it and improved their market position owe it to their re-orientation towards skilled workforce and commitment to a new corporate culture based on the mission, vision and values with which they identify while doing their best to meet the goals of each (Sánchez-Bayón and Lucero, 2020). Mazur-Wierzbicka (2021, p. 4621) indicates the following properties of CSR 3.0:

- 1. 'Involves interaction, collaboration and cooperation from institutions and people alike.
- 2. Creating economic value in a way that enables the creation of values for society through adequate taking into account of their needs and challenges.
- 3. Focus on the procedure to build a common social or economic, etc., space. Integration of social and environmental issues not only with the general strategy, but also in current engagements.
- 4. Development of strategic philanthropy based on collaboration and on thinking about the common good.
- 5. Social actions carried out on the basis of strategies and measures of effects. Focus on stakeholders, i.e. employee and customer education and their inclusion in the company's social actions through individual philanthropy programmes (e.g. cause related marketing).
- 6. Relates to dialogue with stakeholders'.

The following sections discuss the methods and results of our own research on communicating CSR in the mission statements of chemical companies in Poland.

4. Methods

The empirical part of the research concerned the commonness of displaying the CSR concept in the mission statements of chemical industry companies operating in Poland. Those missions were then benchmarked with the statements of analogous service-trade companies from the chemical sector.

Proper research work commenced in the third quarter of 2021. Its first stage consisted in establishing research questions, goals and hypotheses. Subsequently,

the content of the mission of selected organizations from chemical sector was analyzed.

The technique used in the research – the content analysis – was described in 1952 by B. Berelson. He defined it as 'research technique for the objective, systematic, and quantitative description of the manifest content of communication' (Berelson, 1952, p. 18). According to E. Babbie (2001, p. 304), it is 'the study of recorded human communications'. It is 'essentially a coding operation' with coding being 'the process of transforming raw data into a standardized form' (Babbie 2001, p. 309). The result of content analysis is not always just a qualitative assessment of the collected research material. The obtained material can also be presented in a quantitative way – the analyzed data can be quantified (e.g. by counting the frequency of words or by counting statements assigned to a given category), and this allows for further statistical processing (Babbie, 2008; Silverman, 2009).

The content analysis was done by the authors of the article by defining the coding scheme, testing it, polishing and/or detailing it, followed by collecting, coding and analyzing data (cf. Insch et al. 1997; Glińska-Neweś and Escher, 2018; Wimmer and Dominick, 2008). The program IRAMUTEQ has been applied, a tool for quantitative text analysis (Camargo and Justo, 2013; Glińska-Neweś and Escher, 2018). It was used to 'extract data from textual materials, structure them by searching for key words, phrases, sentences and encoding them in the form of numerical variables, and then statistically process them to discover (and often visualize) the relationships between them' (Glińska-Neweś and Escher 2018, p. 85)².

To identify chemical companies in Poland, four business catalogues were used:

- the Business Navigator website (https://www.baza-firm.com.pl/Chemia-budowlana/strona-2/; companies from the categories: 'construction chemicals', 'household chemicals', 'auto chemicals and cosmetics', 'chemical raw materials and reagents', 'chemical agents, items production, sale'),
- the industry website Chemia & Biznes (https://www.chemiaibiznes.com.pl/katalog-firm/przemysl-chemiczny; businesses from the category 'chemical industry'),

The IRAMUTEQ program is used to the analysis of the statements of interview participants (e.g. Chaves et al. 2017; Glińska-Neweś and Escher, 2018; Sousa et al. 2020). It can also be useful for analyzing the content of: Facebook pages (e.g. Baptista and Gradim, 2022; Manchaiah et al. 2018), articles in magazines (e.g. Manchaiah et al. 2018) or scientific publications (de Souza Marins et al. 2021), documents (Fuentevilla et al. 2022; Silva and Ribeiro, 2022), websites (e.g. Junqueira et al. 2021; Marchand and Ratinaud, 2017; Seiler and Bortnowska, 2019), etc.

- the economic website Wnp.pl (https://www.wnp.pl/; enterprises from the chemical sector),
- the website of the Polish Chamber of Chemical Industry (https://www.pipc. org.pl/, PIPC members representing the chemical industry were included).

On that basis, a database with almost 3,000 entities was created. Those entities were then analyzed to check if their mission statements were shared on relevant corporate websites. Ultimately, 197 missions (published by 112 production-commercial companies, and 85 - service-trade companies) were identified, after which reference to the CSR concept was verified.

IRAMUTEQ software was used to analyze the prevalence of individual terms appearing throughout mission statements, covering not just standalone words and expressions but also their synonyms and the context in which they were used and links between the most common phrases. Let us also note that the collected data was quantified to allow for further statistical processing (see: Babbie, 2008; Silverman, 2009). Thus, the qualitative and quantitative approach were combined in the course of the analysis. Statistical analyses were carried out using Statistica software.

During the research, the prevalence of keywords and links between them were analyzed. An important element was also the identification and analysis of the values declared in the mission statements. A taxonomy proposed by Cardona and Rey (2008) was used to code those values, originally distinguishing the following: 1. "Business values: values relating to the company's business and profit-making activity. Examples include perseverance, efficiency, professionalism or results orientation. 2. Relational values: values that Foster quality in interpersonal relations. They include, for example, communication, team work or respect for people. 3. Development values: values aimed at differentiating and continuously improving the company. Examples include innovation, creativity, learning or continuous improvement. 4. Contribution values: values aimed at doing more for stakeholders than strictly required by the business relationship. They include, for example, customer satisfaction, interest in people, social responsibility". Since the last of the categories accounts for the satisfaction of various parties, including customers or shareholders, a decision was made to carve out an additional category related to CSR sensu stricto.

The following research hypotheses were formulated: H₁: Most of the examined chemical industry companies in Poland display CSR values in mission statements. H₂: Examined chemical industry companies in Poland do not differ from analogous organizations from the chemical sector in terms of including CSR in mission statements.

These hypotheses were tested using a non-parametric test for random unpaired samples - the Mann-Whitney U test (with continuity correction).

5. Content of the mission statements of chemical companies operating in Poland

By studying the contents of the identified missions statements, attention was focused on 112 chemical industry companies (engaged in production and commercial activities). The following examples of CSR-sensitive mission statements can be given:

- 1. 'Creating and satisfying customer needs by providing innovative and dedicated chemical products, meeting the highest standards of security and environmental protection, caring for our employees. Raising corporate value by using the experience, creativity and innovativeness of our employees, coupled with continuous improvement and development of products. Our openness, commitment and individual growth make us a preferred trading partner and help us shape the right relationship with the environment' (Alwernia; http://www.alwernia.com.pl/misja, 20.07.2021 access date).
- 2. 'to foster its innovative development in the scope of searching for and implementing new technologies, and manufacturing and trading in products that meet our clients' needs and expectations. It is conducted in an eco-friendly manner with a care of employees whose potential is unlocked to the full' (Chemipol; http://www.chemipolco.pl/en/misja-i-wizja.html, 20.07.2021 access date).
- 3. 'to create value by appreciating the needs of:
 - customers, by providing competitive and innovative solutions,
 - employees, by adhering to corporate values,
 - shareholders, by achieving above-average returns; the environment, by acting sustainably' (Clariant Poland Sp. z o. o.; https://reports.clariant.com/2019/integrated-report/foundation/vision-mission-and-values.html, 20.07.2021 access date).
- 4. 'to create a stable market position through building long-lasting relationships with clients and suppliers by offering clients highest quality products and prompt fulfilment of orders. Elimination of side effects of the production's influence on the natural environment through the improvement of processes, employing the newest technologies, recovery of raw materials, segregation and waste management' (Zakład Chemiczny Paweł Paprocki; http://www.zakladychemiczne.com/section / company/hash/mission/, 20.07.2021 access date).

In the analysis of the content of these 112 mission statements, IRAMUTEQ software was used. Phrases appearing in at least 10 missions were qualified for analysis. Specific numbers and linkages are shown in figure 1.

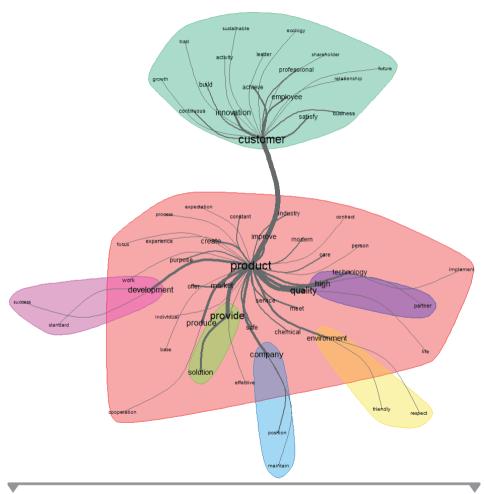


Figure 1. Linkages between most prevalent terms included in mission statements of Polish chemical companies

Source: own study

The research shows that the analyzed firms were mainly driven by *products* and *customers*. These two terms - both in plural and single form - were mentioned a total of 105 and 97 times, respectively. The statements highlighted, among others, the need to create or deliver high-quality products/solutions, improve those, satisfy customer needs, promote business growth and market position. CSR initiatives, including environmental protection, were communicated in the missions, too. The following keywords appeared relatively frequently: *environment* – 40 times, *safety* – 28, *sustainable* – 12, *ecology* – 10, *responsible* – 9, *protection* – 6.

6. Values communicated in the mission statements of examined chemical industry companies; comparison with analogous organizations (service-trade)

Let us recall that the taxonomy proposed by Cardona and Ray (2008) (business, relational, development, contribution) was used to code values displayed in mission statements, with a fifth additional type in the form of CSR sensu stricto. The categories would appear in the statements either alone (the so-called 'pure' types) or more often combined, that is containing at least two categories of values (the so-called 'mixed' types). In terms of declared statements, more than one in five companies was of the *pure* type (43; 21.83%), while the remaining ones were of the *mixed* type (154; 78.17%).

Almost all (99.49%) companies highlighted in their missions the values included in Cardona and Rey's taxonomy (2008), especially business values (171; 86.80%), followed by contribution ones (147; 74.62%), including those referring to CSR sensu stricto (62; 31.47%), therefore the share of the latter in this group was 42.18%. Lastly, development (87; 44.16%) and/or relational values (45; 22.84%) were the least accentuated ones.

Table 1. Mann-Whitney U test results (with continuity correction) (including company type and value type in the mission statement)

Value types	Mann-Whitney U test (with continuity correction) (company type and type of values in the mission statement)											
	Rank sum - Group 1	Rank sum - Group 2	U	Z	P	Z adjusted	P	N va- lid - Gro- up 1	N va- lid - Gro- up 2			
Business	16637,50	2472,500	2102,500	-0,08350	0,933453	-0,09736	0,922445	170	25			
Relational	14891,00	4219,000	3229,000	0,28080	0,778868	0,327383	0,743378	151	44			
Develop- ment	11868,00	7047,000	3306,000	3,44275	0,000576	4,017360	0,000059	108	86			
Contribu- tion	13928,50	5181,500	3197,500	-1,1087	0,267546	-1,29269	0,196119	146	49			
CSR sensu stricto	14426,50	4683,500	2792,500	3,54144	0,000398	4,129017	0,000036	134	61			

Source: own elaboration based on research

U - Mann-Whitney test value used for small numbers <20

Z - Mann-Whitney test value used when number of both groups is greater than 20

 $\boldsymbol{P}_{}$ – significance level for the test for the \boldsymbol{Z} test value

Z adjusted - test value adjusted for combined weights

p - significance level for Z adjusted

N valid - numerical amount of groups

- highlighted results significant at p<,05000

In the course of the research, possible linkages were sought between communicating certain types of values and the type of business (production-commercial vs. others). To that end, a Mann-Whitney U test was performed to reject two partial null-hypotheses regarding two categories: development and CSR sensu stricto (table 1).

Table 2. Value categories in mission statements of companies from the chemical industry operating in Poland

	Company type									
Values	(p:	uical industry roduction commercial) (112)		Other (services r commercial) (85)	Total (197)					
	N	(%)	N	(%)	N	(%)				
Business	98	87.50	73	85.88	171	86.80				
Relational	27	24.11	18	21.18	45	22.84				
Development	64	57.14	23	27.06	87	44.16				
Contribution	88	78.57	59	69.41	147	74.62				
CSR sensu stricto	49	43.75	13	15.29	62	31.47				

Source: own elaboration based on research

Analysis of the collected research material showed that chemical industry companies (production-commercial) are three times more likely than analogous companies (service-trade) from the same sector to communicate in their mission statements values related to CSR sensu stricto (43.75% vs. 15.29%). Let us also add the same companies highlighted development values twice as much (57.14% vs. 27.06%) (table 2).

7. Conclusion

Chemical industry companies are businesses whose activity comes with numerous ecological and related social threats. Consequently, the activity of these entities entails significant reputational risk. One way to manage it is by adapting the principles of social responsibility. CSR can be built into the company's strategy and communicated in the form of a mission statement. Many organizations in these industries use the mission slogan as a tool to improve a perception about their activities (Verboven and Van Bets, 2013).

Mission statements being a basic strategic document, the authors were keen on investigating whether Polish chemical companies communicate in them CSR- related values. Our results show that less than half communicate such values sensu stricto, thereby forcing us to reject H_1 hypothesis. There are, however, grounds to argue that a smaller share of Polish chemical companies communicates CSR in mission statements, although the obtained results can be relativized. Let us note that in Poland - as cross-sectoral studies (including chemical companies) of Witek-Crabb (2019) showed that the level of CSR practices of the enterprises is still rather low - 23% of them apply strategic CSR.

The Mann-Whitney U test provided the basis for partial rejection of a null hypothesis with equal distributions of samples (chemical industry companies vs. others from chemical industry) concerning the display of CSR sensu stricto in mission statements. The examined production-commercial companies were more likely to highlight CSR values mission than service-trade ones. These findings are in line with the results of the studies of Yozgat and Karataş (2011), conducted in Turkish chemical companies, as well as of Fifka et al. (2018), who examined companies in various sectors in the USA and India.

It appears that production companies, which directly threaten the natural and social environment, are more likely to communicate their responsibility at a strategic level. As Vollero et al. (2019) study showed, companies representing controversial industries (which also include chemical organizations), are more likely to adopt a CSR information strategy than companies in noncontroversial industries (cf. Byrd et al. 2017; Pled and Iatridis, 2012). By formulating this conclusion, however, it should be remembered that this is not the only area where such firms could differ. Chemical industry companies in Poland are usually large businesses, often foreign-invested, and as such they have a greater ease of incorporating CSR principles into their business model than usually smaller service-trade companies. Studies of chemical companies in the Czech Republic, in a country similar in socio-economic terms to Poland, large enterprises pay more attention to non-financial issues communication (Munzarova et al. 2022).

Limitations of our research were also identified, such as the fact that only mission statements published on corporate websites were analyzed, perhaps excluding those not posted online. In addition, the real activities were not examined and the motives for adopting CSR (that is, communicating CSR in mission statements) were not determined. But, as the research of Penco et al. (2019) showed (cf.: Bartkus and Glassman, 2008), there is a link between the content of a company's mission and its CSR performance. The sample was also limited to Polish companies, thereby making the conclusions applicable to the

Polish market only. At this point it is also worth outlining directions for future research that would include comparative analyses carried out in companies from another industry as well as among companies based in other countries. This would be facilitated by the use of techniques requiring direct contact, interviews, observations, surveys, case studies, etc.

The article contributes a sectoral perspective to the literature on communicating CSR in mission statements and provides chemical company managers with an indication of the importance of such activities.

Summary

CSR in the mission statements of Polish chemical industry companies (content analysis results)

Due to the specific nature of their activities, chemical companies are exposed to significant reputational risk. One way to reduce this risk is by implementing a CSR policy. CSR can be built into the company's strategy and communicated as a mission statement. The purpose of the article was to determine: 1. the types of values which chemical industry companies in Poland display in their mission statements, 2. if chemical industry companies in Poland display CSR values in their mission statements, 3. if these companies differ from others operating in the chemical sector in Poland in terms of displaying CSR in mission statements. The research was carried out through the Iramuteq program, which enabled content analysis of the collected research material. A total of 197 missions were analyzed to find that less than half of the examined chemical companies in Poland display CSR-related values sensu stricto in mission statements. It was also found that chemical companies (production-commercial) highlighted CSR values in their mission statements more often than analagous service-trade companies.

Keywords: *chemical industry, CSR, mission statement, values.*

Streszczenie

CSR w deklaracjach misji polskich przedsiębiorstw przemysłu chemicznego (wyniki analizy treści)

Przedsiębiorstwa przemysłu chemicznego ze względu na specyfikę swojej działalności narażone są na istotne ryzyko reputacyjne. Jednym ze sposobów ograniczania tego ryzyka jest wdrażanie polityki społecznej odpowiedzialności (CSR). CSR może być włączana do strategii przedsiębiorstwa i komunikowana w deklaracji misji. Celem artykułu jest ustalenie: 1. typów wartości eksponowanych w swoich deklaracjach misji przez przedsiębiorstwa przemysłu chemicznego działające w Polsce. czy przedsiębiorstwa przemysłu chemicznego działające w Polsce eksponują w swoich misjach wartości związane z CSR. 3. czy przedsiebiorstwa te różnia sie od pozostałych działajacych w branży chemicznej na terenie Polski w zakresie eksponowania CSR w deklaracjach misji. Badania zrealizowano za pośrednictwem programu Iramuteq, który umożliwił przeprowadzenie analizy treści zgromadzonego materiału badawczego. Przeanalizowano 197 misji przedsiębiorstw działających na terenie Polski. Wyniki badań wykazały, że niespełna połowa przedsiębiorstw przemysłu chemicznego eksponowała deklaracjach misji wartości związane z CSR sensu stricto. Ponadto, ustalono że badane przedsiębiorstwa chemiczne (produkcyjno-handlowe) częściej akcentowały w swoich deklaracjach misji wartości CSR, niż firmy usługowe i/ lub handlowe działające w branży chemicznej.

Słowa

kluczowe: przemysł chemiczny, CSR, deklaracja misji, wartości.

JEL

Classification: L21, L65, M14

References

Abramczyk A. (2017). Branża chemiczna w Polsce, *Control Engineering*, No. 5, https://controlengineering.pl/branza-chemiczna-w-polsce-d1/(20.04.2020 – access date).

Atsuyuki, K. A. T. O. (2010). Similarities and Differences between the Manufacturing and the Service Sectors: An empirical analysis of Japanese automobile related industries, Research Institute of Economy, Trade and Industry, RIETI Discussion Paper Series 10-E-057. https://www.rieti.go.jp/jp/publications/dp/10e057.pdf (05.10.2022 – access date).

Babbie, E. (2001). *The practice of social research*. Belmont: Wadsworth. Babbie, E. (2008). *Podstawy badań społecznych*. Warszawa: PWN.

Baptista, J. P., Gradim, A. (2022). Online disinformation on Facebook: the spread of fake news during the Portuguese 2019 election. *Journal of*

Contemporary European Studies, Vol. 30(2), pp. 297-312, DOI: 10.1080/14782804.2020.1843415.

Bartkus, B. R., Glassman, M. (2008). Do Firms Practice What They Preach? The Relationship Between Mission Statements and Stakeholder Management. *Journal of Business Ethics*, Vol. 83(2), pp. 207-216. DOI: 10.1007A10551-007-9612-0.

Bartkus, B. R., Glassman, M., McAfee, R. B. (2004). A Comparison of the quality of European, Japanese and U.S. mission statements. *European Management Journal*, Vol. 22, No. 4, pp. 393-401. DOI: 10.1016/j. emj.2004.06.013.

Berelson, B. (1952). Content analysis in communication research. New York: Free Press.

Blalock, H. (1975). Statystyka dla socjologów. Warszawa: PWN.

Bowen, H. R. (1953). Social responsibilities of the businessman. New York: Harper&Row.

Burke, L., Logsdon, J. M. (1996). How corporate social responsibility pays off. *Long Range Planning*, No. 29(4), pp. 495–502. DOI: 10.1016/0024-6301(96)00041-6.

Byrd, J. W., Hickman, K., Baker, C. R., Cohanier, B. (2017). Corporate social responsibility reporting in controversial industries. *SSRN Electronic Journal*, DOI: 10.2139/ssrn.2894789. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2894789 (07.10.2022 – access date).

Camargo, B.V., Justo, A.M. (2013). IRAMUTEQ: un software libre para el análisis de datos textuales. *Temas em Psicologia*, Vol. 21(2), pp. 513-518. DOI: 10.9788/TP2013.2-16.

Campbell, A. (1997). Mission Statements. *Long Range Planning*, Vol. 30 (6), pp. 931-933. DOI:10.1016/S0024-6301(97)00084-8.

Cardona, P., Rey, C. (2009). Zarządzanie poprzez misję. Kraków: Oficyna Wolters Kluwer.

Carroll, A.B. (1991). The Pyramid of Corporate Social Responsibility: Toward the moral management of organizational stakeholders, *Business Horizons*, July–August, pp. 39–48. DOI:10.1016/0007-6813(91)90005-G.

CEFIC (2014). *Social responsibility in the European chemical industry*. Brussels. www.cefic.org (12.09.2021 – access date).

Chaves, M.M.N., dos Santos, A.P.R., dos Santosa, N.P., Larocca, L.M. (2017). Use of the Software IRAMUTEQ in Qualitative Research: An Experience Report. *Computer Supported Qualitative Research*, Vol. 71, pp. 39-48. https://doi.org/10.1007/978-3-319-43271-7_4.

Chemicals Strategy for Sustainability Towards a Toxic-Free Environment, Communication From The Commission To The European Parliament. The Council. The European Economic And Social Committee And The Committee Of The Regions. Brussels. 14.10.2020, COM/2020/667 Final.

Communication from the Commission of the European Communities concerning Corporate Social Responsibility: A business contribution to Sustainable Development, Commission Of The European Communities , Brussels, 2.07.2002, COM(2002) 347 Final.

Cortés, J. D. (2022). What is the mission of innovation? —Lexical structure, sentiment analysis, and cosine similarity of mission statements of research-knowledge intensive institutions. *Plos one*, Vol. 17(8), pp. 1-20. DOI: 10.1371/journal.pone.0267454.

Cunningham, S., Cornwell, T.B., Coote, L.V. (2009). Expressing Identity and Shaping Image: The Relationship Between Corporate Mission and Corporate Sponsorship. *Journal of Sport Management*, Vol. 23, pp. 65-86. DOI:10.1123/jsm.23.1.65

Dąbrowski, T. J. (2012). Zagrożenie reputacji firm chemicznych, *Przemysł Chemiczny*, No. 94(11), pp. 2095-2098.

Dąbrowski, T. J., Majchrzak, K. (2014). Społeczna odpowiedzialność przedsiębiorstw przemysłu chemicznego, *Przemysł Chemiczny*, No. 93(3), pp. 281-286. DOI: dx.medra.org/10.12916/przemchem.2014.280.

de Souza Marins, B. V., de Souza Ferreira, G., Ramos, H. C. (2021). Sustainability Reporting in Higher Education Institutions: a systematic approach using VOSViewer and Iramuteq softwares. *International Journal of Advanced Engineering Research and Science*, Vol. 8, Iss. 3. DOI: 10.22161/ijaers.83.14.

Elkington, J. (1994). Enter the Triple Bottom Line, https://www.johnelkington.com/archive/TBL-elkington-chapter.pdf (14.01.2022 - access date).

Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental Quality Management*, Vol. 8(1), pp. 37–51. DOI: 10.1002/tqem.3310080106.

Fifka, M. S., Kühn, A. L., Stiglbauer, M. (2018). 'One size fits all'? Convergence in international corporate social responsibility communication — A comparative study of CSR mission statements in the United States and India. *Journal of Public Affairs*, Vol. 18(3), pp. 1-16. DOI: 10.1002/pa.1670.

Fuentevilla, E. F., Ardoy, L. N., Paredes, A. I. G. (2022). Multidimensional Analysis of Court Rulings Involving Minors: The Potential of Iramuteq Software. *Revista Española de Investigaciones Sociológicas*, Vol. 179, pp. 145-169. DOI: 10.5477/cis/reis.179.145.

Gauthier, J., Josien, L. (2017). Mission statements and responsiveness to stakeholders: an exploratory study of social ventures. *Global Journal of Business Disciplines*, Vol. 1(1), pp. 111-121.

Gioia, D. A., Patvardhan, S. D., Hamilton, A. L., Corley, K. G. (2013).

Organizational identity formation and change, *Academy of Management Annals*, Vol. 791, pp. 123-193. DOI:10.1080/19416520.2013.762225.

Glińska-Neweś A., Escher I. (2018). Analiza treści w badaniach zjawisk społecznych w organizacji : zastosowanie programu IRAMUTEQ. *Studia Oeconomica Posnaniensia*, Vol. 6, No. 3, pp. 73-94. DOI: 10.18559/SOEP.2018.3.4.

Gray, E. R., Balmer, J. M. (1998). Managing corporate image and corporate reputation. *Long Range Planning, Vol. 31, No. 5*, pp. 695-702. DOI: 10.1016/S0024-6301(98)00074-0.

Green Paper. Promoting a European framework for Corporate Social Responsibility, Commission of the European Communities, Brussels, 18.07.2001, COM(2001) 366 Final.

Grunwald, G. (2019). Developing CSR strategy from the legal business environment: conceptual framework and application to the European Chemicals Regulation, *Home International Journal of Sustainable Strategic Management*, Vol. 6, No. 2, pp. 188-200.

Helmig, B., Hinz, V. Ingerfurth, S. (2015). Valuing organizational values: assessing the uniqueness of nonprofit values. Voluntas, Vol. 26(6), pp. 2554-2580. DOI:10.1007/s11266-014-9530-6.

Hirota, S., Kubo, K., Miyajima, H., Hong, P., Park, Y. W. (2010). Corporate mission, corporate policies and business outcomes: evidence from Japan. *Management Decision*, Vol. 48, No. 7, pp. 1134-1153. DOI: 10.1108/00251741011068815.

Hys, K., Wolniak, R. (2018). Społeczna odpowiedzialność biznesu w przedsiębiorstwach przemysłu chemicznego w Polsce. Wybrane zagadnienia. *Przemysł chemiczny*, No. 97(9), pp. 1417-1419. DOI: 10.15199/62.2018.9.1.

Insch, G.S., Moore, J.E., Murphy, L.D. (1997). Content analysis in leadership research: Examples, procedures and suggestions for future use. *The Leadership Quarterly*, No. 8(1), pp. 1–25. DOI: 10.1016/S1048-9843(97)90028-X.

International Organization for Standardization, ISO 26000 Social Responsibility, Switzerland 2010.

Johnston, R., Chambers, S., Harland, C. M., Harrison, A., Slack, N. (2003). *Cases in Operations Management*. Harlow: Financial Times Prentice Hall.

Jóźwiak, J., Podgórski, J. (2009). Statystyka od podstaw. Warszawa: PWE.

Junqueira, L. A. P., Pinochet, L. H. C., Magalhães, K. E. (2021). Blockchain technology and the impact on business models. *Journal on Innovation and Sustainability RISUS*, Vol. 12(2), pp. 131-138. DOI: 10.23925/2179-3565.2021v12i2p131-138.

Kemp, S., Dwyer, L. (2003). Mission statements of international airlines:

A content analysis. *Tourism Management*, Vol. 24, No.6, pp. 635-653. DOI: 10.1016/S0261-5177(03)00049-9.

Komunikat Komisji do Parlamentu Europejskiego, Rady, Europejskiego Komitetu Ekonomicznego i Komitetu Regionów – Strategia w zakresie chemikaliów na rzecz zrównoważoności na rzecz nietoksycznego środowiska (COM/2020/667 final), https://eur-lex.europa.eu/resource. html?uri=cellar: f815479a-0f01-11eb-bc07-01aa75ed71a1.0005.02/DOC 1&format=PDF (20.12.2021 – access date).

Law K. M. Y., Breznik K. (2018). What do airline mission statements reveal about value and strategy?. *Journal of Air Transport Management*, Vol. 70, pp. 36-44. DOI:10.1016/j.jairtraman.2018.04.015.

Leuthesser, L. Kohli, C. (1997). Corporate identity: the role of mission statements, *Business Horizons*, Vol. 40 No. 3, pp. 59-66. DOI:10.1016/S0007-6813(97)90053-7.

Lin, Y. H., Ryan, C., Wise, N., Low, L. W. (2018). A content analysis of airline mission statements: Changing trends and contemporary components. *Tourism Management Perspectives*, Vol. 28, pp. 156-165. DOI:researchonline.ljmu.ac.uk/id/eprint/9794.

Lin, Y., Ryan, C. (2016). From mission statement to airline branding. *Journal of Air Transport Management*, Vol. 53, pp. 150-160. DOI: 10.1016/j. jairtraman.2016.02.013.

Lock, I., Seele, P. (2015). Analyzing Sector-Specific CSR Reporting: Social and Environmental Disclosure to Investors in the Chemicals and Banking and Insurance Industry. *Corporate Social Responsibility and Environmental Management*, Vol. 22(2), pp. 113-128. DOI: 10.1002/csr.1338.

Loubčre, L., Ratinaud, P. (2014). Documentation Iramuteq 0.6 alpha 3, version 0.1. http://www.iramuteq.org/documentation/fichiers/documentation_19_02_2014.pdf (28.03.2019 - access date).

Manchaiah, V., Ratinaud, P., Andersson, G. (2018). Representation of tinnitus in the US newspaper media and in Facebook pages: Cross-sectional analysis of secondary data. *Interactive Journal of Medical Research*, Vol. 7(1), pp. 96-108. DOI: 10.2196/ijmr.9065.

Marchand, P., Ratinaud, P. (2017). Entre distinctivité et acceptabilité: Les contenus des sites Web de partis politiques. *Réseaux*, Vol. 204, Issue 4, pp. 71-95. DOI: 10.3917/res.204.0071.

Mazur-Wierzbicka, E. (2021). E-communication and CSR - a new look at organizations' relations with stakeholders in the time of digitalization. *Procedia Computer Science*. No. 192, pp. 4619-4628. DOI:10.1016/j. procs.2021.09.240.

Moczko, J. A. (2014). Czy zawsze prawidłowo interpretujemy wyniki statystycznych testów nieparametrycznych. *Prace Poglądowe*, http://www.wple.net/plek/numery_2014/numer-11-2014/654-658.pdf (01.07.2019 - access date).

Moss, T. W., Short, J. C., Payne, G. T., Lumpkin, G. T. (2011). Dual identities in social ventures: an exploratory study. *Entrepreneurship Theory and Practice*, *July*, pp. 805-830. DOI: 10.1111/j.1540-6520.2010.00372.x.

Muhlemann A., Oakland J., Lockyer K. (1992). Production and Operations Management. London: Pitman.

Munzarova, S., Kostalova, J., Fialova, E. (2022). Non-financial reporting of chemical companies in the Czech Republic. *Business: Theory and Practice*, Vol. 23(1), pp. 88-98. DOI: 10.3846/btp.2022.11972.

Niedzielski, P., Rychlik, K. (2007). Innowacje w sektorze produkcyjnym i usługowym-odmienność czy podobieństwo? *Zeszyty Naukowe Uniwersytetu Szczecińskiego*, No. 453, Ekonomiczne Problemy Usług, No. 8, pp. 177-186.

Penco, L., Profumo, G., Tutore, I. (2019). Mission Statements and the Sustainability Communication. Symphonya. Emerging Issues in Management (symphonya.unicusano.it), Vol. 2, pp. 95-108. DOI: 10.4468/2019.2.09penco.profumo.tutore.

PIPC (2018). *Przemysł chemiczny w Polsce: pozycja, wyzwania, perspektywy*. Warszawa. https://www.pipc.org.pl/aktualnosci/raport-przemysl-chemiczny-w-polsce-pozycja-wyzwania-i-perspektywy,p2127321021 (20.07.2021 – access date).

Pled, V., Iatridis, G. E. (2012). Corporate social responsibility reporting: evidence from environmentally sensitive industries in the USA. *International Review of Accounting, Banking & Finance*, Vol. 4(2), pp. 61-98.

Rabiej, M. (2012). Statystyka z programem STATISTICA. Gliwice: Helion.

Sánchez-Bayón A., M.Á.G.-R. Lucero (2020). *Trends in eBusiness: digital currencies for a CSR 3.0 good practice*. In: Aydın, Ö. (Ed.), *Trends in E-business and E-government*. https://arxiv.org/ftp/arxiv/papers/2104/2104.01176. pdf# page=8 (17.01.2022 – access date).

Scherer, S.C. (2017). Organizational identity and philanthropic institutions. Patterns of strategy, structure, and grantmaking practices. *Nonprofit Management and Leadership*, Vol. 28(1), pp. 105-123, DOI:10.1002/nml.21266.

Seiler, B., Bortnowska, H. (2019). Mentoring in Polish nonprofit organizations. *Organizacja i Zarządzanie: kwartalnik naukowy*. No. 3, pp. 133–157. DOI: 10.29119/1899-6116.2019.47.10.

Silva, S. D., Ribeiro, E. A. W. (2022). A gestão democrática no Plano de Desenvolvimento Institucional dos Institutos Federais: uma análise a partir do uso do software IRaMuTeQ. *Texto Livre*, Vol. 15, pp. 1-12. DOI: 10.35699/1983-3652.2022.37294.

Silverman, D. (2009). *Interpretacja danych jakościowych*. Warszawa: PWN. Sousa, Y. S. O., Gondim, S. M. G., Carias, I. A., Batista, J. S., de Machado, K. C. M. (2020). O uso do software Iramuteq na análise de dados de entrevistas. *Revista Pesquisas e Práticas Psicossociais*, Vol. 15(2), pp.

1-19. http://www.seer.ufsj.edu.br/revista_ppp/article/view/e3283 (02.10.2022 - access date).

Stuart H. (1999). Towards a definitive model of the corporate identity management process. *Corporate communications: an International Journal*, Vol. 4 (4), pp. 200-207. DOI:10.1108/13563289910299328.

Sun, L., Stuebs, M. (2013). Corporate Social Responsibility and Firm Productivity: Evidence from the Chemical Industry in the United States, *Journal of Business Ethics*, Vol. 118, pp. 251–263, DOI: 10.1007/s10551-012-1579-9.

Tetřevová, L. (2013). Social responsibility of chemical industry enterprises. *Scientific Papers Of The University Of Pardubice Series A Faculty of Chemical Technology*, No. 19, pp. 269-279. DOI: hdl.handle.net/10195/75441.

The European Green Deal, Communication From The Commission To The European Parliament, The European Council, The European Economic And Social Committee And The Committee Of The Regions, Brussels, 11.12.2019, COM/2019/640 Final.

Tran, Y. T. H. (2014). CSR in banking sector. A literature review and new research directions, *International Journal of Economics, Commerce and Management*, Vol. II, Issue 11, pp. 1-22.

Turoń K., Czech P. (2017). Wyższy poziom CSR: doskonalenie rozwiązań społecznej odpowiedzialności biznesu na przykładzie branży Kuriersko-Ekspresowo-Pocztowej, *Rynek - Społeczeństwo – Kultura*, No. 2(23), pp. 86-89.

Verboven, H. (2011). Communicating CSR and business identity in the chemical industry through mission slogans. *Business Communication Quarterly*, Vol. 74(4), pp. 415-431. DOI: 10.1177/1080569911424485.

Verboven, H. (2013). Mission slogans in stigmatized industries. *Economia Aziendale Online*, Vol. 4(2), pp. 201-213. DOI: 10.4485/ea2038-5498.003.0042. Verboven, H. J. (2012). Branding in the chemical industry: Mission slogan and image campaign. Ethics or pragmatics? *Economia Aziendale Online*, Vol. 1, pp. 195-209. DOI: 10.13132/2038-5498/2007.1.195-209.

Verboven, H., Van Bets, Ph. (2013). Mission slogans in stigmatized industries. *Economia Aziendale Online*, Vol. 4 (2), pp. 201-213. DOI:10.4485/ea2038-5498.003.0042.

Visser W. (2011). The Age of Responsibility: CSR 2.0 and the New DNA of Business. London: Wiley.

Vollero, A., Conte, F., Siano, A., Covucci, C. (2019). Corporate social responsibility information and involvement strategies in controversial industries. *Corporate Social Responsibility and Environmental Management*, Vol. 26(1), pp. 141-151. DOI: 10.1002/csr.1666.

Wimmer R. D., Dominick J. R. (2008). *Mass media. Metody badań*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

Witek-Crabb, A. (2019). CSR Maturity in Polish Listed Companies: A Qualitative Diagnosis Based on a Progression Model. *Sustainability*, Vol. 11(6), 1736. DOI: 10.3390/su11061736.

Yozgat, U., Karataş, N. (2011). Going green of mission and vision statements: ethical, social, and environmental concerns across organizations. *Procedia-Social and Behavioral Sciences*, Vol. 24, pp. 1359-1366. DOI: 10.1016/j. sbspro.2011.09.110.

Zhou, M., Park, T., Yi, J. (2009). Commonalities and differences between service and manufacturing supply chains: Combining operations management studies with supply chain management. *California Journal of Operations Management*, Vol. 7, No. 1, pp. 136-143.

Zimara, V., Eidam, S. (2015). The benefits of social sustainability reporting for companies and stakeholders – Evidence from the German chemical industry. *Journal of Business Chemistry*, Vol. 12 (3), pp. 85-103.

http://www.alwernia.com.pl/misja (20.07.2021 - access date).

http://www.chemipolco.pl/en/misja-i-wizja.html (20.07.2021 - access date).

http://www.naukowiec.org/wiedza/statystyka/test-u-manna-whitneya_755.html (20.12.2021 – access date).

http://www.zakladychemiczne.com/section/company/hash/mission/(20.07.2021 – access date).

https://afry.com/pl-pl/o-nas (20.07.2021 - access date).

https://oqema.pl/o-nas/ (20.07.2021 - access date).

https://reports.clariant.com/2019/integrated-report/foundation/vision-mission-and-values.html (20.07.2021 – access date).

https://www.baza-firm.com.pl/Chemia-budowlana/strona-2 (15.07.2021 – access date).

https://www.chemiaibiznes.com.pl/katalog-firm/przemysl-chemiczny (15.07.2021 – access date).

https://www.pipc.org.pl/ (15.07.2021 - access date).

https://www.wnp.pl/ (15.07.2021 - access date).