
Are the Financial Results of Selected Companies Listed on the Warsaw Stock Exchange Related to Non-Financial Information Presented in CSR Reports?

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Abstract:

Purpose: The aim of the article is to try to answer the research questions: Is the content provided in CSR reports understandable to their recipients? and What is the linguistic structure of these reports? An additional question is: Are there any relationships between non-financial information and financial data in the reports of the selected entities?

Approach/Methodology/Design: The research sample consisted of companies listed on the Warsaw Stock Exchange in the period 2016-2018, which belong to two stock exchange indices: WIG-fuels and WIG-chemistry. The sample consists of 12 companies.

Findings: On the basis of the conducted research, the most important conclusions were formulated: 1. CSR reports in the surveyed companies were prepared on a similar level of language difficulty, 2. The texts of CSR reports in public companies are understandable regardless of education, 3. There is a link between non-financial and financial information in terms of describing the profitability of the surveyed companies and a description of the total size of the enterprise.

Practical Implications: The article indicates an important issue related to the attempt to answer the questions whether the description of the companies' activities is related to the financial data. This issue is extremely important from the point of view of an external recipient who uses the financial statements.

Originality/Value: The results of the research and theoretical considerations contained in the article complement the existing research in accounting. Previously, such studies were not carried out in Poland with Polish companies.

Keywords: Non-financial reporting, non-financial disclosures, CSR.

JEL classification: M40, M41, M42.

Paper Type: Research study.

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1. Introduction

With the development of economies around the world, financial reporting became an increasingly important tool that allowed the recipients to be provided with purely financial information on the functioning of a selected economic entity. However, over time, the role of financial reporting has changed. In the middle of the twentieth century, it was observed in the reports of economic entities that they began to include more and more information describing the non-financial situation. Such descriptions were primarily related to the description of the impact of the unit on the environment in which it operated.

This resulted in the extension of the information capacity of the report and contributed to the development of the language of communication called narrative in science, including narrative in accounting (Czajkowska, 2019). For this reason, the narrative began to interest for scientists. The first known ones were scientists who published their works in the most prestigious scientific journals, i.e., *The Accounting Review* and *Journal of Accounting Research*.

An excellent review of the literature on the development of research on narrative in accounting was conducted by Beattie (2014), who identified the most important and influential works. The first article published on readability and corporate annual reports was by Soper and Dolphin (1964). Others were published by Smith and Smith (1971), Haried (1972; 1973), Morton (1974), and Beattie (2014).

The aim of the article is to try to answer research questions about:

1. *Is the content provided in CSR reports understandable to their recipients?*
2. *What is the linguistic structure of these reports?*
3. *Are there relationships between non-financial information and financial data in the reports of the audited entities?*

The following research hypotheses were defined for the research objective formulated in this way:

Hypothesis 1: There are significant differences in the language structure in the analyzed CSR reports in Poland (H1).

Hypothesis 2: The content provided in CSR reports is understandable by their recipients (H2).

Hypothesis 3: There is a relationship between non-financial and financial information in listed companies (H3).

2. Materials and Methods

2.1. Research Sample

The research sample consisted of companies listed on the Warsaw Stock Exchange (WSE) in Warsaw (Poland). The research period was from 2016 to 2018. The selected entities belonged to two stock exchange indices: WIG-fuels and WIG-chemistry. The sample consists of a total of 12 companies, which constituted 100% of all companies listed on the stock exchange belonging to the WIG-fuel index and the WIG-chemistry index. Within the WIG-fuels index, 7 companies were examined, while within the WIG-chemistry index, 5 companies were examined (Table 1).

Table 1. *List of companies in 2013-2018*

Indeks	Instrument	ISIN code	Shares (%)
WIG-fuels	PKN ORLEN	PLPKN0000018	54,734
	PGNIG	PLPGNIG00014	29,692
	GRUPA LOTOS	PLLOTOS00025	12,392
	MOL	HU0000153937	2,412
	UNIMLOT	PLUNMOT00013	0,423
	SERINUS	JE00BF4N9R98	0,174
	SKOTAN	PLSKTAN00010	0,173
WIG-chemistry	GRUPAAZOTY	PLZATRM00012	45,316
	CIECH	PLCIECH00018	37,998
	POLICE	PLZCPLC00036	7,598
	PCCROKITA	PLPCCRK00076	7,543
	POLWAX	PLPOLWX00026	1,545

Source: <https://gpwbenchmark.pl/opisy-indeksow>.

Another criterion for selecting the sample is the criterion for publishing information on the implementation of the Corporate Social Responsibility (CSR) concept in the form of CSR reports or integrated reports in the period from 2016 to 2018 and the preparation of consolidated financial statements in accordance with international legal regulations, i.e., International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS). All companies reported CSR activities in accordance with the Global Reporting Initiative (GRI Standard) (GRI) standards.

The necessary condition was that the report should be prepared in Polish. Information on CSR was collected directly from the websites of listed companies or as a result of interviews with employees of the company's investor relations department and obtaining documentation from them. Financial data of the surveyed public interest companies was obtained from the Emerging Markets Information Service (EMIS) database. In total, 36 reports on the implementation of the CSR concept and 36 consolidated annual financial statements were audited (Table 2).

Table 2. *Number of companies, CSR reports and annual consolidated financial statements selected by industries and years*

Itemization	2016	2017	2018	Total	
WIG- fuel	Number of companies	7	7	7	21
	Number of companies on the WSE	7	7	7	21

	Percentage of companies	100%	100%	100%	x
	Number of CSR reports	7	7	7	21
WIG-chemistry	Number of companies	5	5	5	15
	Number of companies on the WSE	5	5	5	15
	Percentage of companies	100%	100%	100%	x
	Number of CSR reports	5	5	5	15
Total number of CSR reports		x	x	x	36
Total financial statements		x	x	x	36

Source: Own study.

2.2 Research Methods

The research methods were selected so that the research goals could be achieved and the research hypotheses put forward could be verified. To verify the first research hypothesis: There are significant differences in the linguistic structure of the analyzed CSR reports in Poland (H1), a tool for analyzing the statistical analysis of texts (Jasnopis.pl) will be used.

This program is an IT tool that can measure the accessibility of a text. He indicates its more difficult parts and proposes corrections. The program is adapted to the conditions of the functioning of the Polish language. According to the possibilities of the software, the areas of statistical text analysis in the CSR reports of the surveyed listed companies are specified in Table 3.

Table 3. Areas of statistical analysis of the text in CSR reports on the assessed companies that are listed on the stock exchange

Area		Description
Area 1: text in numbers	Number of sentences	Calculated based on the number of punctuation marks and marks that indicate the end of a paragraph. Punctuation marks that indicate the end of a sentence are: full stops (except those after abbreviations or numbers), question marks, and exclamation marks. A sentence is also considered to be any part of text that begins with a new paragraph or starts after a punctuation mark that suggests the end of a sentence and ends with an end of paragraph mark.
	Number of words	A word is any sequence of letters or numbers not separated by a space or a punctuation mark (a hyphen is also considered to be a punctuation mark).
	Number of difficult words	Difficult words are considered to be those (basic, base) that consist of four syllables or more, and which are not commonly known words, i.e., one of the 5,000 words most frequently used in Polish texts, they are also not words of a high, the so-called subjective probability.

Area 2: average length of units of text	Average length of words	A number obtained from dividing the number of all syllables in a given text by the number of all words in the text. The greater the average length of words, the more difficult the text is to understand.
Area 3: text in percentages	Percentage of difficult adjectives	Calculated analogously to the way in which the percentage of difficult nouns is estimated.
	Percentage of difficult verbs	Calculated analogously to the way in which the percentage of difficult nouns is estimated.
	Percentage of difficult nouns	Calculated as the ratio of detected occurrences of difficult nouns in the text to the number of occurrences of all words times 100%.
	Percentage of difficult words	Calculated as the number of words that are considered to be difficult divided by the total number of words in the text times 100%.
	Percentage of adjectives	Calculated as the number of different types of adjectives detected in the text divided by the number of total words times 100%.
	Percentage of nouns	Calculated as the number of different types of nouns detected in the text divided by the number of total words times 100%. Nouns are considered to be the so-called gerunds, i.e. verbal nouns such as reading, spitting, noun names of features such as innocence, transparency, and words such as sick in a clear noun function (e.g. there were two sick lying in the room).
	Percentage of verbs	Calculated as the number of different types of verbs detected in the text divided by the number of total words times 100%. Adjectival and adverbial participles are not considered to be types of verbs.

Source: Jasnopis.pl.

Second hypothesis: The content provided in CSR reports is understandable by their recipients (H2). This hypothesis will also be verified using the Jasnopis software. This software gives you the ability to calculate the scale of the readability index of the selected text.

The value of the FOG index represents the number of years of education needed to understand the text and is the basis for its evaluation. The formula for determining the value of the FOG index (formula 1) and the interpretation of the scale of the affordability index of the FOG index (Table 4) is presented below:

$$\text{Index FOG} = 0,4 (T_w + T_s) \text{ (formula 1)}$$

Explanations:

T_w – average number of words in a sentence,

T_s – the percentage of words that are difficult, and more precisely, longer than average words in a given language.

Table 2. Interpretation of the FOG readability index scale

Scale	Interpretation	Approximate required education
1	The text is childishly easy	Grades 1-3 of primary school
2	Very easy text	Grades 3-6 of primary school
3	The text is easy, understandable for the average Pole	Junior high school
4	The text is a bit more difficult, understandable for people with secondary education or with extensive life experience	High school
5	The text is more difficult, understandable for educated people	Undergraduate/Engineering studies
6	The text is difficult to read for the average Pole	Masters
7	Very complex, professional text, the understanding of which may require specialist knowledge	PhD or specialization in the field covered by the text

Source: Jasnopis.pl.

Third hypothesis: There is a relationship between non-financial and financial information in listed companies (H3). It will be verified using the constructed linear regression model (formula 2).

Statistical analysis of the text_{it}

$$= \beta_0 + \beta_1 INST_{it} + \beta_2 Size_{it-1} + \beta_3 CURRAT_{it} + \beta_4 CAPEX_{it-1} + \beta_5 ROA_{it} + \varepsilon_{it} \quad (formula\ 2)$$

The variables came from annual consolidated financial statements prepared in accordance with IFRS/IAS. Therefore, five quantitative variables were selected (Table 5).

Table 3. Quantitative variables used in the research

Variable	Description
$INST_{it}$	Share of issued capital in equity in year t
$SIZE_{it-1}$	Natural logarithm of total assets of the economic entity at the end of the financial year t.
$CURRAT_{it}$	Total dividend from current assets divided by short-term liabilities of the economic entity in year t.
$CAPEX_{it-1}$	Investment expenditures for product development or system implementation - however, only in the part in which the capital is intended to maintain the current ability of the listed company to generate revenue for the company and at the end of the year t.
ROA_{it}	The ratio of the company's net profit to the value of its assets t.

Source: Own study.

Subsequently, the models used in the study were defined. The models are described in Table 6.

Table 6. *The models used in the research*

Areas	Models	Qualitative variables	Quantitative variables
Area 1	Model 1	Number of sentences	$= \beta_0 + \beta_1 INST_{it} + \beta_2 SIZE_{it} + \beta_3 CURRAT_{it} + \beta_4 CAPEX_{it} + \beta_5 ROA_{it} + \varepsilon_{it}$
	Model 2	number of words	
	Model 3	Number of difficult words	
Area 2	Model 4	Average word length [syllables]	
	Model 5	Average sentence length (words)	
Area 3	Model 6	Percentage of difficult words	
	Model 7	Percentage of nouns	
	Model 8	Percentage of difficult nouns	
	Model 9	Percentage of verbs	
	Model 10	Percentage of difficult verbs	
	Model 11	Percentage of adjectives	
	Model 12	Percentage of difficult adjectives	

Source: Own study.

In total, twelve models were constructed to examine the relationship between the variables explaining the relationship between non-financial information and financial data. The models were divided into three studied areas. Within the first area, three econometric models were constructed, within the second area, two econometric models were constructed, and within the last area, seven econometric models were constructed.

3. Results

3.1 Assessment of the Language Structure of CSR Reports of Companies from the WIG-Fuel and WIG-Chemistry Indexes in 2016-2018: Verification of the First Research Hypothesis

3.1.1 Descriptive Statistics

First research hypothesis: There are significant differences in the language structure in the analyzed CSR reports in Poland (H1) was verified by statistical text analysis using the Jasnopis program. Descriptive statistics for selected areas of text analysis for WIG-fuel for the years 2016 to 2018 are presented in Table 7.

Table 4. Descriptive statistics for selected areas of text analysis for WIG-fuel for 2016-2018

Areas		Mean	Standard Deviation	Max.	Min.
Area 1	Number of sentences	2498	15	2512	2482
	number of words	32582	203	32789	32383
	Number of difficult words	5467	318	7591	1804
Area 2	Average word length(syllables)	2	0	2	2
	Average sentence length(words)	13	0	14	13
Area 3	Percentage of difficult words	5%	0%	5%	5%
	Percentage of nouns	45%	0%	45%	45%
	Percentage of difficult nouns	5%	0,58%	6%	5%
	Percentage of verbs	7%	0%	0,7%	7%
	Percentage of difficult verbs	1%	0%	1%	1%
	Percentage of adjectives	15%	0,58%	16%	15%
	Percentage of difficult adjectives	5%	0,58%	6%	5%

Source: Own study.

Descriptive statistics for the first area of text analysis described the following sub-areas, i.e., the number of sentences, the number of words, the number of difficult words. In the analyzed period, the number of sentences in the CSR reports of companies indexed in WIG-fuels was 2,498 sentences on average. The maximum number of sentences in the analyzed reports was 2,512 and the minimum was 2,482.

The average number of words in CSR reports was 32,582 words per report. In the case of difficult words, their share accounted for 16% of all words. The minimum value of difficult words is 1,804, where the maximum number of difficult words is 7,591. In the case of the second research area, two sub-areas were distinguished in

average word length (syllables), average sentence length expressed in words. Each of the sub-areas presented in the following years was at a similar level. In the case of the average word length, in the CSR reports, the average word length expressed in syllables was at the level of two syllables on average, and the average sentence length expressed in words was thirteen words on average, with the minimum number of words in a sentence being thirteen words and the maximum number of words in a sentence was valued at fourteen. The third area of text analysis is percentage text.

The results inform in what percentage a given part of the sentence occurs in the text of the reports. The results in all years in all sub-areas in all reports are at a very similar level. The average percentage of difficult words was 5%. On the other hand, the average percentage of nouns in the total part of speech is 45% and it is the highest share of parts of speech in the analyzed texts in CSR reports. The second one, in terms of the share of parts of speech in the analyzed texts of CSR reports, is the percentage of adjectives and amounts to 15%. The least used were difficult verbs, which accounted for 1% of all parts of speech, and difficult adjectives, whose share in the total part of speech was 5%.

The results of descriptive statistics for selected areas of text analysis for WIG-chemistry are presented in Table 8.

Table 5. *Descriptive statistics for selected areas of text analysis for WIG-chemia for the years 2016-2018*

Areas		Mean	Standard Deviation	Max.	Min.
Area 1	Number of sentences	1604	165	1714	1414
	number of words	22694	130	22819	22559
	Number of difficult words	1066	7	1073	1058
Area 2	Average word length(syllables)	2	0	2	2
	Average sentence length(words)	14	0	14	14
Area 3	Percentage of difficult words	5%	0%	5%	5%
	Percentage of nouns	4,6%	0%	4,6%	4,6%
	Percentage of difficult nouns	9%	6%	9%	8%
	Percentage of verbs	8%	0%	8%	8%
	Percentage of difficult verbs	1%	0%	1%	1%
	Percentage of adjectives	21%	6%	21%	20%
	Percentage of difficult adjectives	7%	0%	7%	7%

Source: Own study.

In the surveyed companies in the chemical industry in 2016-2018, the first area of the statistical analysis of the text was characterized by various results. The average number of sentences was 1604, while the standard deviation was 165 words. The minimum number of sentences was 1714 and the maximum number of sentences was 1414.

The average number of words contained in the analyzed CSR reports in chemical companies was 22694 with a standard deviation of 130. The minimum number of words was 22559 and the maximum number of words was 22819. The number of difficult words in the analyzed years was at a similar level and amounted to 1066 on average. 4.7%. The second area of text statistical analysis, including the analysis of the length of text units, expressed in syllables, and the average length of a sentence, expressed in words, is characterized by similar values over the years under study.

The average syllable word length was two syllables per word and the average word length was fourteen words per sentence. The last area of the statistical analysis of the text indicates that in all years we can observe similar results of the share of the examined parts of speech in individual CSR reports. The first sub-area refers to the percentage of occurrence of difficult words in CSR reports. It averages 5%. The next sub-areas are nouns (46%) and adjectives (21%).

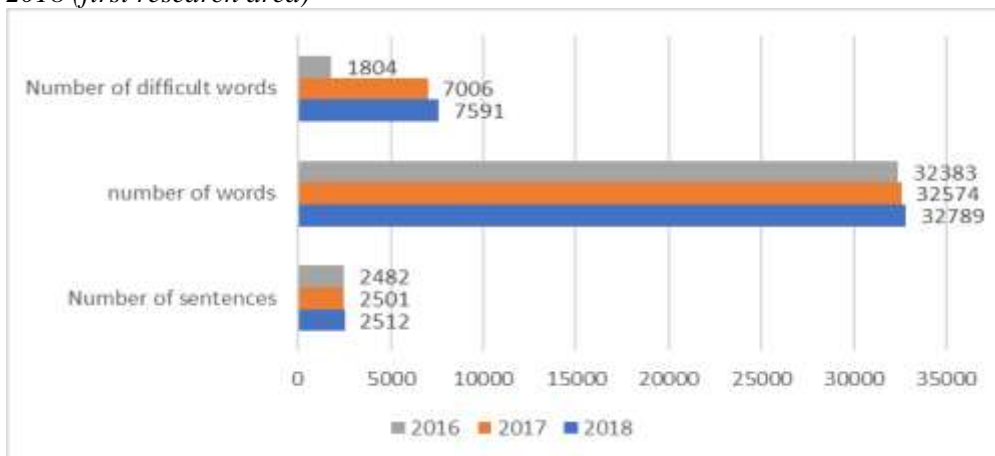
The percentage share of verbs in the surveyed reports accounted for 8% of all words appearing in CSR reports in all surveyed companies, where difficult verbs accounted for 1%. Comparing the results obtained in both very similar industries in terms of environmental impact, we can observe that, despite the similarity of the industries, the results are to some extent different from each other.

3.1.2 Text Analysis in Reports of WIG-Fuel and WIG-Chemistry Companies in 2016-2018: Verification of the First Research Hypothesis

In the first analyzed research area concerning text analysis, it was found that CSR reports in fuel companies had a similar number of words used in individual years (Figure 1). For WIG-Fuel companies it was 32,383 in the first analyzed year and 32,789 in the last year. The difference in the verbal description between the two years was less than 1.25%. The same is true for the number of sentences. In the first research year, the number of sentences was 2482 sentences, and in the last year it reached the value of 2512 sentences.

In the case of the use of difficult words, there is a significant increase in difficult words over the period under study. The number of difficult words used increased from 1804 in 2016 to 7591 in 2018. The difference between these extreme years was 5787 difficult words. This may mean that the surveyed companies began to use words considered difficult more willingly.

Figure 1. Results of statistical text analysis in the surveyed fuel companies in 2016-2018 (first research area)

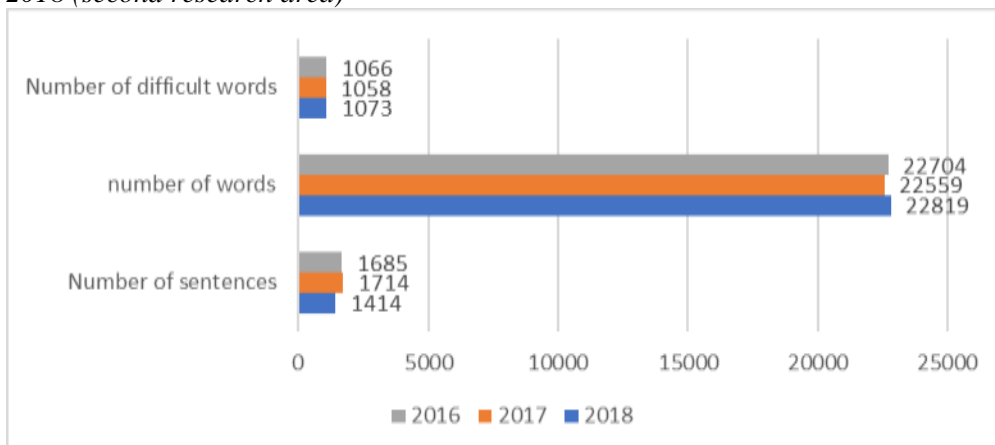


Source: Own study.

Comparing the results of the text analysis of the first area for WIG-chemistry (Figure 2), it was found that the number of words used in the CSR reports of chemical companies was at a similar level, i.e., in the first year under study, it was 22,704 and in the last year, 22,819. reports decreased with subsequent years of the study. In the first year, i.e., in 2018, the number of sentences was 1,685, and in 2018 it was 1,414.

When examining the share of difficult words, it was found that the value of words in the entire period under study was at a similar level. Not lower than 1000 and not higher than 1100.

Figure 2. Results of statistical text analysis in the surveyed fuel companies in 2016-2018 (second research area)

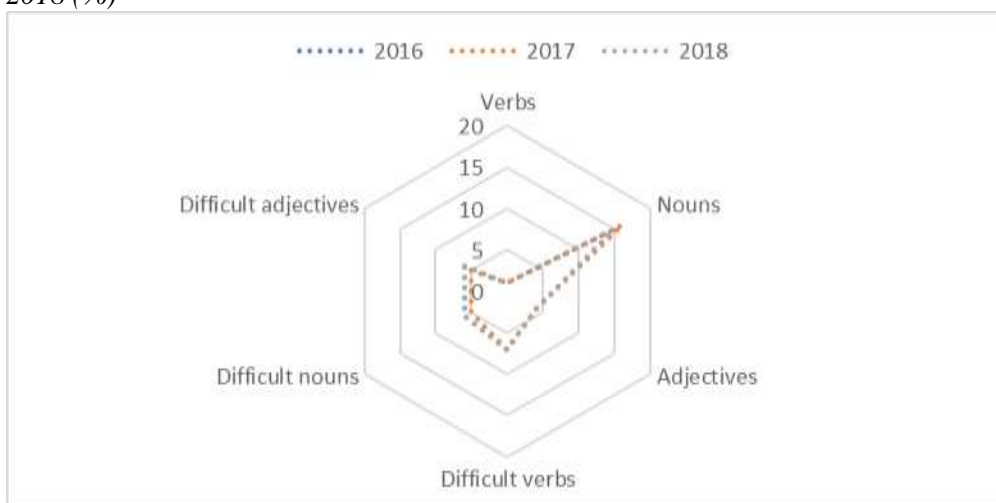


Source: Own study.

In fuel companies and chemical companies, sentence length expressed in words was 13-14 words. The level of words in the sentences was kept constant throughout the research period. In the case of word length, the word length expressed in syllables for both indices was at the level of two syllables.

Figures 3 and 4 present the results of the statistical analysis of the text of the last area for the surveyed companies in the chemical and fuel industries in 2016-2018. In the case of companies from the WIG-fuel index, it was found that the largest share of parts of speech in the total parts of speech is the share of nouns. Another part of speech that has a high share in all parts of speech is the adjective. Adjectives make up 15% of all parts of speech.

Figure 3. Results of statistical text analysis in the surveyed fuel companies in 2016-2018 (%)

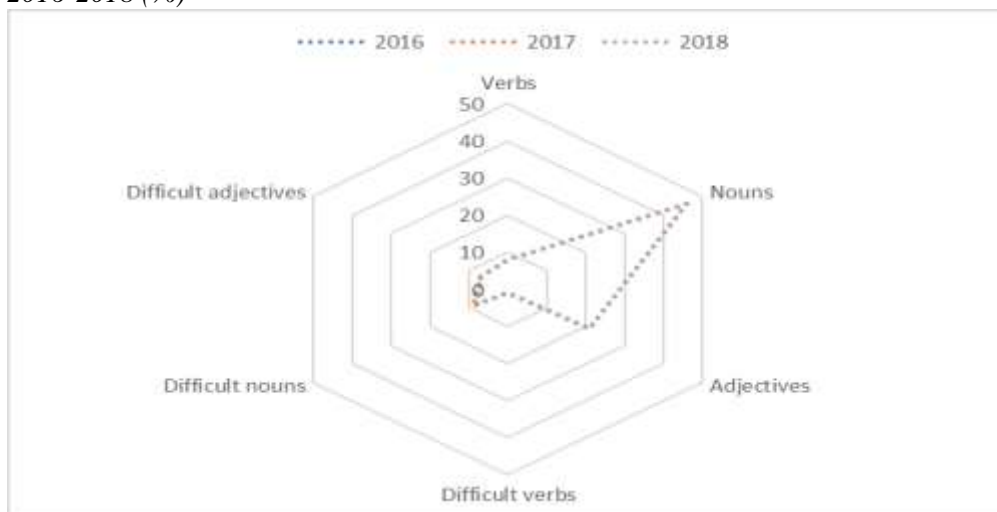


Source: Own study.

The smallest share of parts of speech are verbs considered difficult in the study. The test contains about 1% of them, followed by a small percentage of difficult adjectives (5-6%), difficult nouns (5-6%) and verbs (7%). In the case of chemical companies, the highest share of parts of speech were nouns (46%) and adjectives (21%). These two parts of speech were dominant in the surveyed reports. On the other hand, the least used were such parts of speech as difficult verbs (1%), difficult adjectives (7%), verbs (8%) and difficult nouns (8-9%).

To sum up, the percentage values of the share of a given part of speech do not differ significantly from each other. However, it is worth noting that, despite the percentage differences, the frequency of occurrence of each part of speech in the texts of the CSR reports of the surveyed companies in both industries is the same. Nouns and adjectives are the most common, while verbs are the fewest.

Figure 4. Results of statistical text analysis in the chemical companies surveyed in 2016-2018 (%)



Source: Own study.

3.1.3 Readability of CSR Reports of Companies from the WIG-Fuel and WIG-Chemistry Index in 2016-2018: Verification of the Second Research Hypothesis

The second research hypothesis (H2) was as follows: The content provided in CSR reports is understandable by their recipients (H2) was verified using the FOG index. The results of the examined CSR reports are presented in Table 9. The FOG readability index was calculated separately for each report and each company. The lowest value of the FOG index was recorded for PCC Rokita.

In each of the analyzed years, the text contained in the CSR reports was addressed to people who had graduated from high school or was addressed to people with quite extensive professional experience.

Table 6. Readability of CSR reports in 2016-2018

Company	Year		
	2016	2017	2018
WIG-fuels			
LOTOS	6	6	6
MOL	6	6	6
PGNIG	6	6	6
PKN Orlen	7	7	7
Unimot	6	6	6
SERINUS	6	6	6
SKOTAN	6	6	6
WIG-chemistry			
Ciech	7	7	7

Azoty	6	6	6
Grupa Azoty Chemical Plant Police	6	6	6
POLWAX	6	6	6
PCC Rokita	4	4	4

Source: Own study.

The value of the FOG index for PCC Rokita was 4. On the other hand, the majority of reports, i.e., 9 (75% of all reports) in each of the surveyed years, was written in a language that was difficult for the average Pole, and the comprehensibility of this text requires the completion of a master's degree. 16% of the reports in the surveyed sample were written in a very complicated, professional language, the understanding of which requires specialist knowledge. The text was addressed to people with a doctorate or specialization in a given field.

3.1.4 Linking the Performance of Companies in Selected Stock Exchange Indices with the Presentation of Non-Financial Information on CSR in 2016-2018: Verification of the Third Research Hypothesis

The third research hypothesis (H3) was as follows: There is a relationship between non-financial and financial information in listed companies (H3) was verified using an econometric model. Table 10 presents the results for twelve models examining the link between the results of the WIG-fuels and WIG-chemistry index companies with non-financial information presented in CSR reports in 2016-2018.

In the first area of text statistical analysis, a negative relationship was found between the number of sentences and the $INST_{it}$, $CURRAT_{it}$ and ROA_{it} variables. This may mean that with an increase in the capital issued in equity or with an increase in the total dividend due to short-term liabilities of the economic entity, the number of sentences decreases.

On the other hand, a positive relationship was demonstrated with the $SIZE_{it-1}$ variable. This means that with the increase in the number of sentences, the value of the natural logarithm of the total assets of the economic entity increases. Subsequently, in the second model, a positive relationship with the number of words was shown by the $SIZE_{it}$ variable, i.e., with the increase in value, the natural logarithm of total assets increases.

On the opposite, the $INST_{it}$ variable showed a negative relationship with the number of words. This may mean that as the share of issued capital in equity increases, the number of words may decrease. The last model in area one explained the positive relationship between the number of difficult words and $CURRAT_{it}$ and the negative relationship with $INST_{it}$.

In the second area of statistical text analysis, two models were distinguished that explained the relationship between variables such as: average word length and

average sentence length and quantitative variables. In the model number four, a positive relationship was indicated between the average word length and the $SIZE_{it}$, $CURRAT_{it}$ variable, and a negative relationship between $INST_{it}$ and ROA_{it} . This may mean that the value of assets and the value of dividends from current assets increase with the increase in the average word length. On the other hand, the average word length is negatively related to the share of issued capital in equity and the return on assets.

In the last area of text statistical analysis, the text was studied as a percentage. As a result, seven models were constructed. As a result of the conducted analyses, it was found that the percentage of difficult words is positively related to the variables $SIZE_{it}$ and $CURRAT_{it}$. On the other hand, it shows a negative relationship with $INST_{it}$. This means that the value of assets and the value of dividends from assets increases with the number of difficult words and may decrease in the case of an increase in the issued capital in equity. In the case of the seventh model, a positive relationship was determined for the $CURRAT_{it}$ variable, while a negative relationship was determined for the $INST_{it}$ and ROA_{it} variables.

This means that the percentage of nouns in the text increases with the increase in the dividend obtained from current assets divided by short-term liabilities. On the other hand, it decreases when the profitability of assets decreases and when the share of issued capital in equity decreases. Subsequently, in the eighth model, a positive relationship was determined for the percentage of difficult nouns with the $CURRAT_{it}$ variable, and a negative one with $INST_{it}$ and ROA_{it} .

This means that with an increase in the percentage of difficult nouns, the value of the total dividend from current assets divided by short-term liabilities increases with the increase in the percentage of difficult nouns, and may decrease with the increase in the percentage of difficult nouns, the value of the share of capital issued in equity and the return on assets. In the ninth model, a strong positive relationship was determined between the variables percentage of verbs and issued capital in relation to equity and total assets, which means that in the case of a high value of issued capital, fewer verbs were used.

The opposite situation was determined in the case of the dependence of the examined variable on total assets, where in the case of increasing assets, the number of verbs in the texts of the analyzed reports also increased. The same situation applied to the $CURRAT_{it}$ variable. Subsequently, in the tenth model, a negative correlation was determined between the percentage of difficult verbs and the value of the ratio of issued capital to equity.

However, a positive correlation was found between the percentage of difficult verbs and the $CURRAT_{it}$ variable. The same situation occurred in the eleventh model for the percentage of adjectives variable. In the last model, a negative correlation was determined between the percentage of difficult adjectives and the variable

determining the share of issued capital to equity, and a positive correlation between the $SIZE_{it}$ and $CURRAT_{it}$ variables (Table 10a and 10b).

Table 7 a. Linking the results of operations of companies from the WIG-fuels and WIG-chemistry index with non-financial information presented in CSR reports in 2016-2018

Variable	Area 1			Area 2	
	Model 1	Model 2	Model 3	Model 4	Model 6
	Number of sentences	Number of words	Number of difficult words	Average word length	Average sentence length
const	0,31436***	7,25473**	6,1770***	8,13955***	10,78740***
$INST_{it}$	(0,00589)***	(0,21594)*	(0,06056)***	(0,12982)***	(0,18002)***
$SIZE_{it}$	0,00838**	0,72942***	(0,02873)	0,11351***	0,11073**
$CURRAT_{it}$	(0,05093)***	(0,82129)	0,24171***	1,03961***	1,06798***
$CAPEX_{it}$	(0,00677)	(0,16881)	0,12521	0,03038	0,06783
ROA_{it}	(0,24536)**	7,75292	0,67062	(3,35241)*	(7,25968)***
F	4,96353	8,70585	7,62754	9,25397	35,30718
Corrected R-square	0,74754	0,7526	0,72445	0,752332	0,799701

Source: Own study.

Table 8 b. Linking the results of operations of companies from the WIG-fuels and WIG-chemistry index with non-financial information presented in CSR reports in 2016-2018

Variable	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3
	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
	Percentage of difficult words	Percentage of nouns	Percentage of difficult nouns	Percentage of verbs	Percentage of difficult verbs	Percentage of adjectives	Percentage of difficult adjectives
const	4,84056***	8,32779***	10,72860***	4,81172***	8,27692***	11,33950***	4,23446***
$INST_{it}$	(0,07041)***	(0,12376)***	(0,14944)***	(0,07333)***	(0,10851)***	(0,13997)***	(0,08248)***
$SIZE_{it}$	0,09807**	0,05332	0,02927	0,08460***	0,04349	0,02053	0,10586***
$CURRAT_{it}$	0,87182***	0,63787***	0,62489***	0,55623***	0,56973***	0,42629***	0,92983***
$CAPEX_{it}$	(0,11925)	0,05225	0,08284	0,01461	0,05428	0,076	(0,01716)
ROA_{it}	1,55867	(4,13776)***	(5,21315)***	(0,29048)	(2,22735)	(2,68579)	(1,98623)
F	11,23832	29,21503	44,06791	10,57445	28,15432	47,36309	11,27205
Corrected R-square	0,708957	0,751991	0,752862	0,79483	0,742497	0,869377	0,70966

Source: Own study.

4. Conclusion

The study aimed at answering the following research questions: Is the content of the report on CSR understandable to its recipients? What is the linguistic structure of these activities? Is there evidence between the non-financial information and the individual entity descriptions?

This problem is used in unresolved research and many are subject to evaluation, which tools used in science and practice help answer these bothering questions. Finding answers to questions about the contribution to the development of reporting, including corporate reporting. This is related to the perfect presentation of reporting information, not only from the financial results of the companies.

In each case, it was possible to create the following number of language structures in the initial CSR reports, measured in three methods of statistical analysis of what was: text in number, equal number of text units, text in percentage, and whether there is research results and description of CSR activities, measured with the use of econometric modelling. All uses of the tools and methods of your own contribution to learning. Based on the research, it was found that there is a relationship between qualitative and quantitative variables. This relationship may be positive or negative.

Research that the components benefited for benefits beneficial to their continued operation, benefits for the use of benefits for the provision of assistance in the course of business or financial benefits. The results of the conducted analysis form theoretical arguments that cause obfuscation as a tool to create poor company performance.

This article contributes to research on CSR disclosure and its relationship with software issuers listed on the Warsaw Stock Exchange (Poland). The research findings can also help policy makers support an ongoing initiative to allow the promotion of plain language in public information disclosure documents.

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