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METHODS OF MEASUREMENT OF CSR DISCLOSURE LEVEL IN CORPORATE REPORTING

METODY POMIARU POZIOMU UJAWNIENI INFORMACJI Z ZAKRESU CSR W SPRAWOZDAWCZOŚCI PRZEDSIĘBIORSTW

DOI: 10.15611/pn.2018.520.04
JEL Classification: L25, M41

Summary: In the research on CSR disclosure level in annual, integrated, environmental and CSR reports different methods of measurement of this level based on the content analysis are used. The aim of the paper is to present methods of measurement of CSR disclosure extent and quality applied in practice on the basis of the literature review. The wide diversity of these methods on the one hand enables to capture different aspects of CSR reporting level and on the other hand leads often to difficulties in comparability of various research results concerning disclosure extent and quality and their determinants.

Keywords: CSR reporting, disclosure, content analysis.

Streszczenie: W badaniach nad poziomem ujawnień informacji z zakresu CSR w raportach rocznych, zintegrowanych, środowiskowych i raportach CSR przedsiębiorstw stosowane są różne metody pomiaru tego poziomu oparte na analizie zawartości. Celem artykułu jest przedstawienie – na podstawie analizy literatury przedmiotu – stosowanych w praktyce metod pomiaru zakresu i jakości tych ujawnień. Duże zróżnicowanie stosowanych metod z jednej strony pozwala na ujęcie różnych aspektów poziomu raportowania CSR, a z drugiej utrudnia porównywalność wyników badań dotyczących zakresu i jakości ujawnień oraz ich determinant.

Słowa kluczowe: sprawozdawczość CSR, ujawnienia, analiza zawartości.

1. Introduction

Corporate Social Responsibility (CSR) can be defined as “company’s voluntary contribution to sustainable development which goes beyond legal requirements” [Gamerschlag et al. 2011, p. 234]. Disclosing information on companies’

environmental and social performance in corporate reporting has gained increasing popularity in recent years and has now become a standard practice of companies' communication with their stakeholders. There are three perspectives on measurement and comparability of CSR performance in corporate reporting: functionalist, critical and postmodernist. The first one postulates that CSR performance can be transparently measured and compared due to rigorous and standardized companies' reports. The critical perspective assumes that CSR performance can be measured, however, it cannot be compared among firms as long as information is controlled by them due to managerial capture of reporting process and possible deliberate greenwashing. According to the postmodernist perspective, corporate reporting cannot describe companies' contribution to sustainable development in reality, regardless of rigorous indicators applied and the good faith of managers, because sustainability itself is an elusive and non-measurable concept [Boiral, Henri 2017].

Despite the doubts about the reliability of corporate reporting on CSR performance and the lack of consensus about what sustainability is and how to measure it accurately, there is a growing interest in CSR disclosure of companies among investors, regulators, non-governmental organizations or CSR and accounting researchers.

Research on CSR disclosure is characterized by the use of a broad variety of research methods based on the content analysis. This analysis is applied in studies focusing on the measurement of the level of environmental and social reporting itself or on the exploration of determinants of this reporting, where CSR disclosure level is a dependent variable in regression models. The aim of the paper is to present methods of measurement of CSR disclosure extent and quality applied in practice on the basis of the literature review.

2. Content analysis as a research method

Content analysis is a systematic method of categorizing and analyzing the content of texts [Steenkamp, Northcott 2007, p. 12]. A very simple definition of content analysis can be found in the study of Sweeney and Coughlan [2011, p. 116]: "a research technique used to determine the presence of certain words or concepts within text". According to B.R. Berelson and B. Downe-Wamboldt objectivity is a feature of content analysis: content analysis is "a research technique for the objective, systematic, and quantitative description of the manifest content of communication" [Berelson 1952, p. 18], or "a research method that provides a systematic and objective means to make valid inferences from verbal, visual, or written data in order to describe and quantify specific phenomena" [Downe-Wamboldt 1992, p. 314]. On the other hand, H.F. Hsieh and S.E. Shannon, defining qualitative content analysis, point to its subjectivity: "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" [Hsieh, Shannon 2005, p. 1278]. Content analysis aims to "organize and elicit meaning from the data collected and to draw realistic conclusions from it" [Bengtsson 2016, p. 8].

Two main approaches to content analysis: mechanistic (quantitative) and interpretative (qualitative), can be identified. In practice, both of them are often applied concurrently. Mechanistic studies provide information about disclosure volumes and/or frequencies. The analysis of texts is performed, e.g., by word count, page count, sentence count, (summed) page proportion or frequency of disclosure [Beck et al. 2010, p. 208]. It is usually assumed that disclosure volume indicates the importance of the disclosure to the reporting entity [Unerman 2000]. The aim of studies based on the interpretative approach is to understand what is communicated and how, what are effects of the narratives on users and how meaning is understood [Beck et al. 2010, p. 208]. In the interpretative or “meaning oriented” content analysis researchers must decide how they act to interpret and gain research data from the text, what forms of text will be included in their analysis, and how the context of their research questions affects the perceived relevance of texts and their meanings [Steenkamp, Northcott 2007, p. 14]. Content analysis comprises then many different methods that vary depending on the research aim and researchers’ attitude.

3. Measurement of CSR disclosure extent and quality

In some studies on determinants of CSR reporting level their authors use CSR disclosure scores provided by rating organizations, e.g. G. Giannarakis [2014] uses the environmental, social and governance disclosure score calculated by Bloomberg as a proxy for the extent of CSR disclosure. Scholars who measure the CSR disclosure level on their own apply diverse research methods based on the content analysis. Some of them are presented in Tables 1 and 2.

Table 1. Methods of measurement of CSR disclosure extent

Studies	Measurement method
[Campbell 2003; Gamerschlag et al. 2011]	Word count
[Buhr 1998; Perrini 2005]	Sentence count
[Cuganesan et al. 2010]	Line count (with converting charts, tables and photographs into equivalent lines)
[Unerman 2000]	Page count
[Chapple, Moon 2005]	<ul style="list-style-type: none"> Classification of disclosure extent based on number of pages into three categories: minimal extent (1–2 pages), medium extent (3–10 pages), extensive extent (over 10 pages)
[Adams et al. 1995]	Counting proportion of pages
[Branco, Rodrigues 2008; Tagesson et al. 2009]	Count of percentage of disclosure items (unweighted disclosure index, with 0-1 rating scale: 0 – an item is not disclosed, 1 – an item is disclosed)

Source: own elaboration.

An important aspect of the measurement of CSR disclosure level is the determining CSR related categories to be analyzed in the content analysis. Many researchers follow the Global Reporting Initiative framework (e.g. [Aktaş et al. 2013; Gamerschlag et al. 2011]) or more recently the requirements of the EU Directive 2014/95 (e.g. [Dumitru et al. 2017; Matuszak, Róžańska 2017; Venturelli et al. 2017]).

The level of CSR disclosure comprises two dimensions: extent and quality. The extent can be considered either as the space in the report devoted to CSR issues or as the degree of disclosing CSR items from the prespecified checklist. In the first approach the disclosure extent may be measured by means of counting words, sentences, paragraphs and pages containing environmental and social information. Words as well as sentences and pages as an analysis unit in the content analysis have their followers and opponents. According to S. Cuganesan et al. [2010], using the sentence count method is more appropriate than the word count in drawing up inferences from narrative statements and in converting charts, tables and photographs into the text equivalent. On the other hand searching the text for specific terms, i.e. words may be perceived as more reliable form of content analysis so that the coder does not have to make any subjective judgment about the meaning or importance of the subject matter that may be required in coding sentences and paragraphs [Abdolmohammadi 2005].

The degree of disclosing CSR items from the prespecified checklist is measured by means of an unweighted disclosure index with a binary scale, in which an absent item is assigned a weight of 0, and a presented one is assigned a weight of 1. The more items are disclosed, the higher disclosure level. Disclosure indices are often used as a research method in the analyses of CSR reporting level in recent years. The value of a weighted disclosure index in which each CSR disclosure item is assigned a weight according to the way is presented in the corporate report depends not only on disclosure quality but on the quantity of disclosed items as well. Thus weighted disclosure indices are an indirect measure of disclosure extent.

Repetitive messages or themes in the corporate report can be counted once (recording the presence of an item in a disclosure index) or more than once according to how often a particular disclosure item occurs in the report (in the word/sentence/page count method). In the latter case repetitive messages or themes enhance the extent of disclosure.

In the measurement of CSR disclosure quality more or less developed rating scales applied in weighted disclosure indices are used (cf. Table 2). The rating scales take into account:

- the completeness of disclosure [Aktaş et al. 2013; Venturelli et al. 2017],
- the detailedness of disclosure [Matuszak, Róžańska 2017; partially Beck et al. 2010],
- the distinction between quantitative and qualitative information [Beck et al. 2010; Dumitru et al. 2017; Raar 2002],

- the distinction between monetary and non-monetary information [Raar 2002],
- the comparability to former year(s) [Beck et al. 2010].

Table 2. Rating scales of CSR disclosure quality

Studies	Quality rating scale	Explanation
[Aktaş et al. 2013]	1–2*	1 – partially reported GRI indicator; 2 – fully reported GRI indicator
[Venturelli et al. 2017]	1–2*	1 – incomplete disclosure; 2 – full disclosure
[Dumitru et al. 2017]	1–3*	1 – narrative presentation; 2 – presentation using key performance indicators or other numerical/quantitative data; 3 – narrative and numerical presentation, at the same time
[Matuszak, Róžańska 2017]	1–4*	1 – reduced information, when the annual report, CSR report or website only mention the concept/term, but do not mention any specific activity or policy; 2 – general information, when the annual report, CSR report or website mention the theme and contain general information on policies or activities connected to it; 3 – detailed information, when the annual report, CSR report or website disclose in detail specific programs on the theme, in addition to general information; 4 – very detailed information, when the annual report, CSR report or website disclose non-financial performance indicators, and a description of procedures and risks associated with the theme, in addition to the detailed information
[Beck et al. 2010]	1–5	1 – disclosure addresses issue related to category definition, pure narrative; 2 – disclosure addresses issue related to category and provides details, pure narrative; 3 – disclosure addresses issue related to category in numerical way, purely quantitative; 4 – disclosure addresses issue related to category in numerical way, including qualitative explanations, narrative and quantitative; 5 – any numerical disclosure to the category including qualitative statements demonstrating year comparisons, narrative, quantitative and comparable
[Raar 2002]	1–7	1 – disclosure in monetary/currency terms (monetary); 2 – quantified in numeric terms of weight, volume, size, etc. but not financial/currency (non-monetary), 3 – descriptive prose only (qualitative only), 4 – descriptive prose and currency (qualitative and monetary), 5 – descriptive prose and numeric terms (qualitative and non-monetary), 6 – a combination of currency and numeric terms (monetary and non-monetary), 7 – descriptive prose, financial and numeric terms (qualitative, monetary and non-monetary)

* Authors assign additionally 0 score for no CSR disclosure.

Source: own elaboration.

In the case of the distinction between quantitative and qualitative information, the highest weighting is assigned to the comprehensive disclosure of concurrently numerical and narrative nature. There are opposite approaches to importance of quantitative and qualitative disclosure, as can be seen in [Raar 2002] vs. [Beck et al 2010; Dumitru et al. 2017]. The primacy of descriptive disclosure may be explained by difficulties in measurement of many social and environmental issues in monetary terms [Roberts, Koeplin 2007]. On the other hand, it is argued that narrative information can be tailored to manage public impressions, which means that the numerical information is more plausible [Neu et al. 1998].

From the studies presented in Table 2 only that of Beck et al. [2010] provides a broader explanation of the applied rating scale with some examples. An inconsistency of Raar's rating scale that distinguishes monetary and non-monetary disclosure can be observed. Since qualitative (only) disclosure is preferred over non-monetary and monetary disclosure (weightings respectively 3, 2, 1), the combination of monetary and non-monetary disclosure should have been assigned a lower weighting as compared with the combination of qualitative and monetary disclosure and qualitative and non-monetary disclosure. The measurement of CSR disclosure quality involves inevitably a researcher's subjective judgment, particularly when the criteria of categorizing items are rather vague as e.g. in the study of Matuszak and Róžańska [2017], where the assessment if the information is yet "detailed" or already "very detailed" may be quite arbitrary.

4. Conclusions

Corporate social responsibility reporting has become a developing area of accounting research in recent years. The research questions in this field relate among others to the extent and quality of CSR information disclosed by companies in corporate reports, on their official websites and in other forms of communication with their stakeholders and determinants of CSR disclosure level. Content analysis is commonly used in the research on CSR reporting. The analysis of research methods used to measure CSR disclosure level based on the content analysis is limited due to the space available in the paper. However presented examples allow to state that there is the wide diversity of these methods applied in practice adopting mechanistic and interpretative approaches. The main drawback of content analysis is the researcher's subjectivity, particularly in the methods that adopt the interpretative approach. On the one hand, the broad variety of measurement methods leads often to difficulties in comparability of various research results and on the other hand it enables to capture different aspects of CSR disclosure level.

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