Trends in environmental performance reporting in the Finnish forest industry

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A B S T R A C T

Previous content analyses of corporate reporting have typically focused on annual reports of one reporting year of board samples. This paper focuses on one industry (the forest industry) and on its environmental performance reporting over a 15-year period from 1998 to 2012. The aim of this research is to analyse the reporting trends. The research is a case study of three Finnish forest industry companies' reporting. Seven major trends emerged from the content analysis. For example, the companies report on a massive number of indicators, focusing mainly on input and output indicators. Also, the number of reported environmental performance indicators is decreasing in each indicator group. In addition, the companies report on the environmental performance of their supply chain very little. This paper makes two contributions. First, the decrease in the number of environmental performance indicators is highlighted; the underlying reasons for the decrease should be researched further. Second, the paper pinpoints the difficulty of obtaining a balanced view of environmental performance by looking at the indicators alone, because these mainly focus on the inputs needed for production and on the unwanted outputs caused (e.g. emissions and waste). This is an aspect that the report preparers should devote more attention to in the future.

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1. Introduction

1.1. Positioning the research

There is a vast amount of research that focuses on the sustainability reporting process, or on the sustainability reports themselves. In his extensive meta-analysis, Fifka (2012) found almost 200 studies covering this topic from over the past 40 years. His analysis revealed three typical aspects in the previous research. First, the research has usually been conducted with the content analysis method. Second, the research data includes annual reports, but, more recently, stand-alone sustainability reports and websites have also been studied. Third, characteristic research samples have been board samples of the largest companies. In addition to Fifka's (2012) findings, the previous content analysis research has been dominated by analyses of one reporting year only. The last three aspects are briefly reviewed in the following section on the basis of the literature and in connection with current research.

As Fifka (2012) points out, research has only recently focused on

the analysis of sustainability reports. The present research follows this modern tradition, and the analysis is further narrowed to environmental indicator reporting for two main reasons. First, the indicators are an important part of both company management and reporting.[1] Managers need quantitative environmental information in order to make environmentally sound decisions (Eagan and Joeres, 2002; Jasch, 2000). Similarly, the quantitative information in corporate reports provides the readers with information on how the companies are performing. However, Daub (2007) found that, in comparison to other reporting, the companies' reporting on the performance indicators was the worst, because the companies were afraid of giving a bad impression of their performance. Second, there are only a few previous studies from the point of view of indicator reporting (Roca and Searcy, 2012; see also 2.1 for further detail). Roca and Searcy actually point out that previous research

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[1] Recently, various indicator frameworks have been developed for the needs of management and reporting: for example, O'Connor and Spangenberg (2008) developed a sustainability indicator framework of reporting based on stakeholder requirements; Mintcheva (2005) created an environmental indicator framework for the food supply chain; and Lundberg et al. (2009) structured an environmental indicator model for the public sector.

often simply focuses on whether the indicators were reported on or not.

Fifka (2012) also argues that the previous research typically addresses board samples. Therefore, as Roca and Searcy (2012) point out, the previous research often provides only top-level analysis. For these reasons, the current research focuses on only three companies to provide more detailed analysis of their reporting. The three companies analysed in this research come from the forest industry, as the previous research has found heavy industry to be an active reporter (Halme and Huse, 1997; Zeng et al., 2010). However, the forest industry is a less studied field of heavy industry (Sinclair and Walton, 2003; Li et al., 2011; see also Chapter 2.2 for a detailed review). Nevertheless, the forest industry offers an interesting research context, as it is undergoing major structural changes.

In addition, the previous content analysis research focuses on analysing only one or a few years of reports, with longitudinal analyses being in the minority. The majority of longitudinal analyses focus on the development of social reporting, which has a longer tradition than environmental reporting, although a couple of analyses focusing on environmental reporting were found (see Chapter 2.3 for a detailed review). The present research contributes to this narrow field by analysing 15 years of environmental information published by the forest industry.

1.2. The aim and the structure of the paper

The aim of this article is to identify and describe the trends in environmental performance reporting in the Finnish forest industry. The focus is on the analysis of the reported environmental performance indicators. OECD (1993) defines indicator as 'a parameter, or a value derived from parameters, which points to/ provides information about/describes the state of a phenomenon/ environment/area with a significance extending beyond that directly associated with a parameter value'. Environmental performance indicators are understood here as defined in the environmental management system ISO14000 series and in the sustainability reporting framework GRI: an indicator 'provides information about an organisation's environmental performance' (ISO, 2004a, 2013) or impact (GRI, 2014). Environmental performance is, on the other hand, defined in ISO 14001 as the measurable results of environmental management in an organisation (ISO, 2004b). Furthermore, environmental performance indicators are regarded as only yielding quantitative results in this research.

The indicators were collected from the three major Finnish forest industry companies — Stora Enso, UPM-Kymmene and Metsä Board — during a time period of 15 years ranging from 1998 to 2012. This research seeks to find an answer to the following research question: What are the trends in environmental performance reporting of the case companies?

This research article makes two contributions that are both academic and practical. First, the study highlights that there is a decreasing trend in the reported indicators. As the previous content analysis research typically focuses on one reporting year, this decrease has not been shown previously. Second, this study finds that the analysed companies' reporting of environmental impacts seems inadequate. This is a surprising result, because the environmental impacts caused by the companies have hardly diminished. Academically, these two contributions should be researched further. Practically, the report preparers would need to make sure that a reader also receives a balanced view of the company's performance by simply looking at the reported indicators.

The structure of the article is as follows. Chapter 2 reviews previous research on content analysis from three perspectives, namely, indicator reporting, forest industry reporting, and longitudinal analysis. Chapter 3 introduces the case study approach, the analysed environmental reports and the method used, which was content analysis. Chapter 4 gives an overview of environmental performance reporting and explicates the trends of performance reporting. The paper ends with a discussion and conclusions in Chapters 5 and 6.

2. Previous research on sustainability reporting

There is a vast body of literature on sustainability reporting. A review of the previous literature is provided here by focusing on the topics of this research, namely, indicator reporting, forest industry, and longitudinal analysis (for a summary of the previous literature, see Table 1). These three areas will be reviewed in the following chapters.

2.1. Previous research on indicator reporting

There is nothing new in the analysis of indicator reporting in the sustainability reporting research. As shown in Table 1, there are multiple studies addressing the topic. In the following, the previous studies will be categorised to typical groups based on the themes of the present research. First of all, the analysis level of indicator reporting has been approached differently. Second, indicator reporting has not typically addressed the forest industry. Third, emissions, effluents and waste are by far the most often reported indicators in the previous research.

First, the level of detail in the analyses has varied. In Table 1, the previous studies have been categorised into three different groups. Group 1 consists of studies that have solely analysed indicator reporting. Group 2 lists a vast amount of research that has analysed the use of indicators as part of the content analysis of sustainability reporting. For example, in Asif et al.'s (2013) analysis of Dutch companies' sustainability reports, one of their 17 criteria for analysis related to indicator reporting. Chan and Mak (2005) examine the environmental reporting of European airlines, and one of their eight areas of analysis focuses on indicators. Prado-Lorenzo et al.'s (2009) analysis focuses on the factors affecting climate change reporting, and they also review the reporting of GRI air emissions indicators. In group 3, there are a few studies that have included sustainability indicators in the analysis framework, but they do not provide detailed analyses of the use of indicators.

Second, Table 2 lists the studies that give a detailed account of the indicator reporting. It becomes clear here that the forest industry has not been a typical topic in the studies. Only one of these studies focuses on the forest industry, namely, the research of Mikkilä and Toppinen (2008). In addition, Roca and Searcy (2012) analyse the forest industry among other industries and present industry specific results. Lober et al. (1997) have forest industry as one of the analysed sectors but, then, they do not provide industry-specific results. In most of the cases, multiple different industry sectors have been studied. On the other hand, a single sector has been studied quite often. Different researchers have categorised the analysed industries in different ways. However, sectors that have been studied more often include automotive, construction, energy, financial, and pharmaceutical sectors.

Third, in the previous indicator research, the analyses typically focused on a single reporting year. As a result, trend analyses were not conducted. However, in the following, previous research is reviewed from the point of view of the frequency of indicator use in the reports. The frequency of indicator reporting has been addressed in three ways in previous research: either the frequency of single indicators is presented (e.g. Hooper and Greenall, 2005; Jones, 2011; Kaenzig et al., 2011); the frequency of the indicator group — most often based on GRI categorisation — is presented (e.g.