

On the Use of Content Analysis (CA) in Corporate Social Reporting (CSR):

Revisiting the debate on the units of analysis and the ways to define them

Abstract

This paper revisits the debate on the units of Content Analysis (CA) for the purposes of Corporate Social Reporting (CSR) research and also reviews a variety of approaches to defining/classifying those units. More specifically, firstly the theoretical arguments for a strictly quantitative, more restrictive view of CA vs. a broader, more qualitative view are considered, followed by a brief discussion on the two main types of CA approaches in the literature, index vs. volumetric studies. Then a review of the literature on the sampling, context and recording/coding units of CA is conducted. The discussion moves on to assessing the use of several classification attempts employed in the literature. With regards to coding, sentences along with derived page size data are suggested as an equally valid approach to the proportion of pages one, whilst with regards to the classification attempts, three particular distinctions, one on symbolic vs. substantive CSD and two thematic ones, are proposed as being able to make the use of CA in the CSR research more meaningful.

KEYWORDS: Corporate Social Reporting (CSR), Corporate Social Disclosure (CSD), Content Analysis (CA), Volume/amount analysis, Index analysis, categorical analysis, thematic analysis

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On the Use of Content Analysis (CA) in CSR: Revisiting the debate on the units of analysis and the ways to define them

Introduction

Although an issue dated to the ancient Greek times (Eberstadt, 1973), increased attention to the responsibilities of corporations is now apparent (see e.g. KPMG, 2005) and Corporate Social Reporting (CSR, hereafter) has been developed to extend the traditional model of financial reporting which emphasises company's economic prosperity, to incorporate social and environmental dimensions (Elkington, 1999)¹. Hence, "social accounting is conceived of as the universe of all possible accountings" (Gray *et al.*, 1997, p. 328).

Those investigating CSR have employed a variety of methodological approaches to conduct their research: from case studies (e.g. Cormier and Gordon, 2001; Adams, 2004) and interviews (e.g. Woodward *et al.*, 2001; O'Dwyer *et al.*, 2005), to surveys using questionnaires (e.g. Deegan and Rankin, 1997; Dunk, 2002), longitudinal studies (e.g. Guthrie and Parker, 1989; O'Dwyer and Gray, 1998), experiments (e.g. Belkaoui and Cousineau, 1977; O'Donovan, 2002) and theoretical investigations (e.g. Parker, 2005; Unerman and O'Dwyer, 2006). Still, it appears that "the research method that is most commonly used to assess organisations' social and environmental disclosures is content analysis" (Milne and Adler, 1999, p. 237).

Content Analysis (CA, hereafter) is most often viewed in CSR as "a technique for gathering data that consists of codifying qualitative information in anecdotal and literary form into categories in order to derive quantitative scales of varying levels of complexity" (Abbot and Monsen, p. 504). Considering the wide employment of the technique and its idiosyncratic approach to analysis (by transforming, by and large, 'qualitative' to 'quantitative' data), a number of methodological concerns have been expressed over its use in CSR research. These concerns can be generally classified as concerning the sampling and measurement units of the analysis; the ways of

¹ For the purposes of this paper, Corporate Social Reporting is defined as "... the process of communicating the social and environmental effects of organisations' economic actions to particular interest groups within society and to society at large" (Gray *et al.*, 1987, p.ix).

‘defining’ those units (a term that Krippendorff, 2004, employs to refer to investigating the contextual aspects of CA, which most frequently regards developing classification schemes for those units); and the reliability of the employed instruments. As Adams (2002) stresses, there is a need for these methodological issues to be addressed “if improvements in the extensiveness, quality, quantity and comprehensiveness of reporting are to be achieved” (p. 246).

A number of papers discuss methodological issues in CSR with a focus on CA, most notably including Guthrie and Mathews (1985), Gray *et al.* (1995b), Hackston and Milne (1996), Milne and Adler (1999) and Unerman (2000) (see also Guthrie *et al.*, 2004 and Beattie and Thomson, 2007, for discussions on the use of CA in the related field of intellectual capital reporting). Whilst Milne and Adler (1999) and Unerman (2000) comprehensively discuss a variety of issues with regards to the reliability of the CA instruments and the inclusiveness of sampling units, respectively, there seems to still be a debate over the measurement units (Milne and Adler suggest different measurement units from Unerman); there also seems to be a lack of studies offering alternative approaches to defining the CA units (see Guthrie and Mathews, 1985; Gray *et al.*, 1995b; and Milne and Adler, 1999, for some brief accounts).

The objective of this paper is thus to add to the literature by revisiting the debate on the CA units and by offering a discussion on a variety of approaches to employing CA in CSR. To satisfy this objective a number of theoretical CA and empirical CSR sources are reviewed and similarly to Unerman (2000) the paper is also informed by observations made during the conduct of a longitudinal case study – a content analysis of published documents of 25 years of British Airways Plc to investigate motivations for CSR. Although discussion of the BA study’s findings is beyond the scope of this paper, references to it are made throughout the text for illustration purposes.

The remainder of this paper is organised as follows. The theoretical arguments favouring a strictly quantitative vs. a wider qualitative CA approach are reviewed initially, in an attempt to broadly situate CSR empirical research into the CA theoretical literature. Then follows a discussion on the method employed to investigate the objectives of the paper and on the index vs. amount/volume CA distinction. Subsequently, the sampling, context and recording of CA units are

discussed respectively, with the latter section further divided into two sub-sections, on words, sentences and proportion of pages, and on derived, page-size data. This is followed by a discussion on ways to conduct CA, with divisions on categorial and thematic distinctions. The concluding section of the study summarises the findings and provides some suggestions for further research.

Quantity vs. quality in CA

A major debate in CA which originated in the late 1940s and 1950s (see e.g. Janis, 1949; Lasswell, 1949; Berelson, 1952; George, 1959; Osgood, 1959) and is still sparkling (see e.g. Boyatzis, 1998; Neuendorf, 2002; Berg, 2004; Krippendorff, 2004) considers whether CA is a strictly quantitative technique or it *should* (or indeed *could*) further take a qualitative form. For example, Berelson (1952) has defined CA as “a technique for objective, systematic, and quantitative description of the manifest content of communication” (p. 18) whilst Krippendorff (1969a) considers it to be “the use of replicable and valid methods for making specific inferences from text to other states or properties of its source” (p. 11)². It is not the purpose of this paper to reject or endorse any of these approaches; it should be noted, however, that this is in essence a pseudo-dilemma, given that by definition CA is both a qualitative and a quantitative technique, employing qualitative data which are subsequently quantified, and concentration on either approach may lead researchers to overlook the challenges arising from the method’s multifaceted character (Gephart, 2004). A brief review of these arguments, therefore, helps to identify broad CA types and general issues and provide a basic reference point for the subsequent discussion.

Proponents of the more restricted view of CA (such as Lasswell, 1949; Berelson, 1952; Deese, 1969; Neuendorf, 2002, see also e.g. Kassarjian, 1977 and Gibson and Guthrie, 1995, in the CSR field) emphasise that it should be systematic, objective and generalisable and that quantification is essential. To ensure that these criteria are met, these theorists further argue for a focus of CA on the manifest (the ‘surface’) rather than the latent (deeper) meaning of the text and to the syntactic (combinations of signs

² Rosengren (1981) assigns these views to the ‘Anglo-American’ vs. the ‘Continental’ and Sepstrup (1981) to the ‘positivistic’ vs. the ‘Marxist/critical’ research traditions, respectively.

without regard for meaning) and semantic (meaning of signs) dimensions of communication, rather than the pragmatic one (the relationship between the communication symbol and its user) (Morris, 1946; Berelson, 1952; George, 1959; Stone *et al.*, 1966). However, within this stream of the literature a further major distinction could be made among the ‘classical’ researchers supporting the use of objective standard categories “to facilitate comparative and cumulative research” (Holsti, 1969b, p. 114) and the ‘pragmatists’, endorsing the use of categories drawing on the theory and the research questions and specifically developed for the data and problem at hand (Marsden, 1965; Stone, 1969; Sepstrup, 1981; Weber, 1985). Other, more restrictive distinctions within this view have also been suggested, mainly based on the degree of quantification or the specific field characteristics (Marsden, 1965; Deese, 1969; Holsti, 1969a). All these approaches however, have been criticised as being too narrow, producing potentially misleading inferences (Stone *et al.*, 1966).

On the contrary, proponents of the broader view (such as e.g. Goldhamer, 1969; Hays, 1969; Krippendorff, 1969a,b; Paisley, 1969 and Easterby-Smith *et al.*, 2002, see also e.g. Unerman, 2003; Day and Woodward, 2004 and Thomson and Bebbington, 2005) consider that qualitative-oriented approaches are more valid, since “one can draw more meaningful inferences by non-quantitative methods” (Holsti, 1969a, p. 10). These theorists argue for a focus on the latent meaning of text and the pragmatic and semantic dimensions of communication and further support the development of inductive categories based on some type of thematic analysis of the text (as in Boyatzis, 1998). However, and in addition to being accused of being more subjective and unreliable (Lasswell, 1949; Sepstrup, 1981), a further major limitation of such a wide approach is that it is difficult to develop a definition for it (Barcus, 1969) and identify conditions that differentiate it from other systematic forms of qualitative analysis without considering it as a ‘universal’ qualitative technique of message analysis, encompassing all the rest³.

³ For example, Krippendorff (2004) seems to consider discourse analysis, social constructivist analysis, rhetorical analysis, ethnographic content analysis and conversation analysis some kind of forms of more qualitative CA. Furthermore, methods such as linguistic analysis (Marsden, 1965), narrative analysis, semiotic analysis, hermeneutics and grounded theory (as defined and illustrated by Schwandt, 2001 and Lewis-Beck *et al.*, 2004) would also comply with these broader definitions of CA. Such an approach however, would further add to the existing confusion over the meaning of the method, as illustrated in a reply of an English Academic to Barcus’ (1969) CA survey: “I am so old-fashioned that I haven’t any idea what you mean by content analysis. If it means to you what it means to me, then every course I have ever taught involves analysis of content” (p. 549).

Evidently, however, all these arguments are associated with the wider debates of positivism vs. interpretivism and quantitative vs. qualitative methods and in many respects are not incompatible (see e.g. Weber, 2004). Indeed, a number of prominent CA theorists acknowledge that “approaches and methodologies are never good per se; they are good *for something*” (Rosengren, 1981, p. 14, emphasis in original), reject this rigid dichotomy and conclude by recommending the use of mixed methods and abductive logic for more complete inferences (see e.g. Berelson, 1952; Pool, 1959; Holsti, 1969a,b; Krippendorff, 1969a,b; 2004, Rosengren, 1981, and also Sepstrup, 1981; Boyatzis, 1998; Berg, 2004; Franzosi, 2004a,b); such mixed approaches may e.g. include the generation of inductive categories with subsequent quantified coding (what Tashakkori and Teddlie [1998] term ‘mixed-method’ approaches) or the parallel conduct of CA approaches focusing on the manifest and the latent content of the text, for triangulation purposes (Tashakkori and Teddlie’s ‘mixed-model’ approaches).

Table 1 summarises these arguments. Naturally, the distinctions are not clear cut (e.g. in qualitative approaches some manifest content is also considered in an attempt to investigate the latent) and some further sub-divisions of the four main approaches may be identified (see Janis, 1949; Marsden, 1965; Deese, 1969). Due to the primarily quantitative orientation of CA in CSR research, the lack of mixed CSR studies⁴ and the apparent vagueness in defining the broader view, this paper primarily focuses on studies subscribing to the more restrictive view of the method. However, some exclusively qualitative approaches have also been considered, when these do not subscribe to an alternative systematic qualitative analysis approach and can take a quantitative form. Considering, further, that the bulk of the approaches subscribing to the more restrictive view could be deemed pragmatic due to the lack of ‘standard’ CSR classifications, an alternative, oft employed classification, the index vs. volumetric CA is reviewed and discussed in the findings. The next section details how this review was conducted.

⁴ This particularly refers to the lack of ‘mixed-method’ studies. There are some examples of ‘mixed-model’ studies in the CSR literature, where evidence from interviews is coupled with CA of Annual Reports (see e.g. O’Dwyer, 1999; Zain, 1999); this is, not surprisingly, evident in PhD works, where research efforts take a wider scope.

Take in Table 1

The method

The research strategy is a theoretical investigation/literature survey, which “involves the use of survey principles applied to documents on the topic of research” and where “the idea is to encompass as much as possible of the existing material – equivalent to getting the panoramic view of the landscape” (Denscombe, 2003, p. 10). This is an oft-employed research design in the CSR literature⁵ and was probably the only pragmatically available strategy to meet the purposes of this research.

The collection and review of the relevant papers (CSR papers employing CA) was quasi-systematic and took place in three stages. Firstly, a systematic review of all the volumes to date (April 2007) of three of the most prominent interdisciplinary journals in Accounting according to both Low and Locke (2005) and Tinker’s (2006) journal assessment studies: *Accounting, Organizations and Society* (1976-), *Accounting, Auditing and Accountability Journal* (1988-) and *Critical Perspectives on Accounting* (1990-), was conducted. Systematic reviews of the literature seem not to have been employed in the CSR research to date (for a potentially related study, see only Marr *et al.*, 2003 in the field of Intellectual Capital Reporting); however, this approach is well established in the health care research (e.g. Egger *et al.*, 2001; Jefferson *et al.*, 2003; Price *et al.*, 2004). The purpose of a systematic literature review “is to evaluate and interpret all available research evidence relevant to a particular question” (Glasziou *et al.*, 2001, p. 1), and with regards to data collection this either involves detailed keyword searches (as in Marr *et al.*, 2003) or exhaustive reviews of selected publications, as in the present paper. In either case, a completed review should

⁵ Theoretical investigations are employed in CSR to introduce frameworks (Laughlin, 1990; 1991; Woodward and Woodward, 2001; Dillard *et al.*, 2005), to review the development of the field (Mathews, 1997; Carroll, 1999; Elkington, 1999; Bebbington, 2001; Gray, 2001; 2002; Line *et al.*, 2002; Norman and McDonald, 2004; O’Dwyer, 2005), to provide general explanatory accounts (Gray *et al.*, 1997; Bebbington and Gray, 2000; Ramirez, 2001), to review specific theories (Gray *et al.*, 1995a; Deegan, 2002), or offer some international perspectives (Capron and Gray, 2000; Bebbington *et al.*, 2000; Aaronson, 2003), and proposals for the development of the field (Adams and Harte, 2000; Lehman, 2004). Most of the authors implicitly seem to consider their methodological choice self-explanatory and some describe how the literature relevant to their purposes is identified and segmented (Gray *et al.*, 1997; Mathews, 1997).

consolidate what is known and identify any gaps in current knowledge leading to a more reliable and accurate picture of the current state of the field literature (Price *et al.*, 2004).

In the second stage of data collection, the reference lists of previously conducted methodological reviews of CA in CSR (Guthrie and Mathews, 1985; Gray *et al.* 1995b; Hackston and Milne, 1996; Milne and Adler, 1999 and Unerman, 2000) were scrutinised and all the publicly available CA studies referenced were collected and reviewed. Finally, to further increase validity, some additional well referenced papers were collected, until it was realised that saturation in contributions was reached, when the review of more sources was not adding to the understanding but only to the paper's reference list.

The data collection resulted in over a hundred papers to be reviewed and a summary of these is presented in Table 2 under their CA approach (some sources employ more than one approach). Considering that a general major weakness of theoretical investigations regards the credibility of the collected documental sources (Denscombe, 2003; Yin, 2003), it was expected that the review of such well-referenced sources would add to the validity of the research; it is albeit acknowledged that particularly in the final stage in data collection, where the additional sources were not collected according to specifically determined criteria, some original, less frequently referenced contributions, published in other sources may have been omitted..

Take in Table 2

The data analysis was based on the approach suggested by Miles and Huberman (1994) which will be discussed in more detail in the findings but in brief involves firstly the review, coding and synthesis of the raw data, subsequently the identification of key dimensions and development of classifications and typologies, and finally, building explanations for the identified patterns and making inferences to the research questions. The first two stages took place simultaneously: the methods' sections of the papers were reviewed and detailed notes for each paper of the precise

approach to CA, the implicit or explicit benefits and limitations identified and the references employed for the justifications, were kept (the development of coding schemes was not deemed necessary). These notes assisted in directly developing the explanatory accounts of the research, addressing the main set objectives. The succeeding sections discuss these findings.

Index vs. amount/volume approaches

As discussed earlier, an alternative distinction of the quantitative, more restrictive CA studies regards the one between the ‘index’ studies and ‘amount-volume’ studies. The index studies generally check for the presence or absence of specific items of information (what Stone *et al.*, 1966 and Holsti, 1969a describe as ‘contingency analysis’) whereas the volumetric ones check for the overall volume of disclosure, most frequently by counting words, sentences or proportions of an A4 page⁶.

Index studies appear to have been the most popular approach to CA up to the early 1990s (Guthrie and Mathews, 1985; Zéghal and Ahmed, 1990), and in fact, in a number of studies, it is this approach that is most commonly labelled as CA, as opposed to the ‘line’, ‘sentence’ or ‘page counts’ terms generally attributed to the volumetric approaches (see e.g. Abbott and Monsen, 1979; Wiseman, 1982; Guthrie and Mathews, 1985, and more recently, Moneva and Llena, 2000; Patten and Crampton, 2004). As Table 2 illustrates, most frequently a simple binary coding scheme is used, where a score of 1 or 0 in the presence or absence of the item is respectively attributed. At times, the aggregated frequency of the presence of these items is further estimated (Cowen *et al.*, 1987; Campbell *et al.*, 2006; Bebbington and Larrinaga, 2007; Guthrie *et al.* 2007). Index studies, though, may further incorporate ordinal measures, to allow for the quality of the specific disclosure to be assessed (Beattie *et al.*, 2004), with Wiseman (1982) and Freedman and Wasley (1990) employing a four-level index (quantitative Corporate Social Disclosure (CSD)=3,

⁶ Note that the distinction between standardised vs. customised CA may still be applicable if one e.g. considers the oft employed in the literature categories developed by Gray *et al.* (1995b), drawing on Ernst and Ernst (1978), as standard with regards to the volumetric studies, and e.g. the GRI (2002) guidelines as a potential standard index for contingency studies.

non-quantitative=2, general=1, absent=0) (see Marston and Shrives, 1991; Beattie *et al.*, 2004, for more thorough discussions on types of index studies).

Although Marston and Shrives (1991, p. 195) assert that index scores “can give a measure of the extent of the disclosure but not necessarily the quality of the disclosure”, it is arguable how useful for evaluating extent these measures are, since as Abbot and Monsen (1979) concede, “The only meaning that may be attributed to the scale is that it reflects the variety of social involvement activities. It does not measure the *intensity* of each activity” (p. 507, emphasis in original). Further, as Milne and Adler (1999) note, although “from a coding perspective, the Ernst and Ernst [index] approach is likely to be more reliable than Gray *et al.*’s [1995a,b] and Hackston and Milne’s [1996, volumetric ones] because each coder has far fewer possible choices for each coding decision, and consequently, far fewer possibilities for disagreeing”, this increased reliability “is gained at the expense of potential refinements to the understanding of social and environmental disclosure” (p. 242). In addition, although this approach appears to have the advantage over the volumetric ones that the scores are not affected by repetition of information or grammar, this might also be misleading, since it might treat a company making one environmental disclosure as equal to one that makes 50 of the same type (Hackston and Milne, 1996; Milne and Adler, 1999).

In volumetric approaches, on the other hand, it is assumed that the extent of disclosure can be taken as some indication of the importance of an issue to the reporting entity (Krippendorff, 1980; Campbell *et al.*, 2003). Although, clearly not all the measured information would be of the same type or quality (Guthrie and Mathews, 1985, Gray *et al.*, 1995b), this can be assessed by applying a wide range of distinctions (Krippendorff, 2004, a more detailed account of these is provided later in the paper)⁷. Considering the evidence that CSR has been increasing across time, both in number of

⁷ A colourful novelistic commentary on the constant biases arising from these volumetric arguments is given by Stern (1960): “The obituaries were Poppa Hondorp’s measure of human worth. ‘There’s little they can add or subtract from you then’, was his view. Poppa’s eye had sharpened over the years so that he could weigh a two-and-a-half inch column of ex-alderman against three-and-a-quarter inches of inorganic chemist and know at a glance their comparative worth. When his son had one day suggested that the exigencies of the printer and makeup man might in part account for the amount of space accorded the deceased, Poppa Hondorp had shivered with... rage...the obituaries were sacrosanct; *The Times* issued from an immaculate source” (p. 24, cited in Webb and Roberts, 1969, p. 320).

disclosing companies and in the amount of information being reported (KPMG, 2005), particularly over the last 15 years (Erusalimsky *et al.*, 2006), and given the limitations of index studies, it seems reasonable that, as also evident in Table 2, the majority of CSR researchers are now employing volumetric approaches to CA in order to get a proxy of the emphasis given to particular content categories (Milne and Adler, 1999) rather than simply checking for the presence or absence of specific CSD.

It should be noted though, that this is not to say that index approaches to CA are necessarily less useful from volumetric ones. It is arguable, for example, whether volumetric studies would have been more useful in identifying general compliance to the GRI guidelines (as in Turner *et al.*, 2006, study) or comparing the variety of CSR information across Annual Reports and corporate internet sites (as in Patten and Crampton, 2004). The suitability of each approach, therefore, as in most research efforts, should depend on the posed research question (Tashakori and Teddlie, 1998; Ritchie and Lewis, 2003; Weber, 2004). Nevertheless, when Patten (2002b) and Patten and Crampton (2004) employed both index and volumetric measures and examined the correlations with lines and sentences, in both the cases quite high coefficients were noted, indicating that even with regard to determining the extent of CSR both approaches may be equally valid.

Units of analysis

In this section the units employed in CA are reviewed. For Krippendorff (2004) “units are wholes that analysts distinguish and treat as independent elements” (p. 97). As he further points out, “In content analysis, three kinds of units deserve distinction: sampling units, recording/coding units, and context units”. Given that Unerman (2000) has thoroughly discussed the choice on the sampling units and that researchers seem to generally agree (not necessarily on the terminology but) on the actual use of context units, more emphasis is paid in the discussion of the recording/coding units, which seem to sparkle a more lively debate.

In natural order the decisions on the definitions/context precede the ones for the sample and the measurement, as in e.g. the Gray *et al.* (1995b) review. However, in

line with Krippendorff (2004) the sampling units are reviewed first, to allow for a more direct comparison and discussion on the often conflated choices of context and recording units.

Sampling units

According to Krippendorff (2004) sampling units “are units that are distinguished for selective inclusion in an analysis... Content analysts must define sampling units so that (a) connections across sampling units, if they exist, do not bias the analysis; and (b) all relevant information is contained in individual sampling units, or, if it is not, the omissions do not impoverish the analysis” (pp. 98-99). One of the first decisions to be made, therefore, when undertaking CA is on the sampling units.

It seems that “the majority of studies into CSR worldwide... have used corporate annual reports as the exclusive sampling unit” (O’Dwyer, 1999, p. 227) and a number of reasons for this have been put forward in the CSR literature. The Annual Report is “the most widely distributed of all public documents produced by a company” and it “can be accepted as an appropriate source of a company’s attitudes towards social reporting” (Campbell, 2000, pp. 84–85, see also similar arguments by Gray *et al.*, 1995b, Paterson and Woodward, 2006). It has also been argued that Annual Reports are the single most important source of information on corporate activities (Adams *et al.*, 1998). Further, from an accounting perspective, explanations are most frequently being sought for voluntary CSD in the Annual Reports (Savage *et al.*, 2000)⁸.

It has been argued, however, that the focus on the employment of Annual Reports may result in an incomplete representation of the quantum of CSR (Zéghal and Ahmed, 1990) since these are not the only medium through which companies report their socially responsible behaviour, a view empirically supported by Unerman (2000), Frost *et al.* (2005) and Guthrie *et al.* (2008). Erusalimsky *et al.*’s (2006) affirmation that “in the years since 1990... the rise in the number of voluntary

⁸But note that “the exclusive focus on the corporate annual report has been accused of being self-sustaining given that its exclusive choice is often justified in the literature on the grounds that this is what most other studies have done” (O’Dwyer, 1999, p. 229, a justification supported by Unerman, 1998).

standalone reports has been astonishing” (p. 12) and Guthrie *et al.*'s (2008) finding that “companies may use the annual report and corporate website for reporting different types of information” (p. 40) gives further support to Unerman's (2000) conclusion that “future studies focusing exclusively on annual reports might not produce particularly relevant results” (p. 674).

As a consequence, a number of CA studies now increasingly employ CSR sources in addition to or other than the Annual Reports as sampling unit. Quite frequently standalone reports are employed (see e.g. Laine, 2005; Jones, 2006; Turner *et al.*, 2006; Bebbington and Larrinaga, 2007), although concerns have been expressed for the use in their analysis of the same protocols employed in the Annual Reports (Erusalimsky *et al.*, 2006); and a number of studies also employ information from the internet (e.g. Esrock and Leichty, 1998; Adams and Frost, 2004; Patten and Crampton, 2004; Unerman and Bennett, 2004; Turner *et al.*, 2006; Guthrie *et al.* 2008), a data source easier to be captured by the index rather than the volumetric approaches to CA, given its volatile nature (but note that Patten and Crampton, 2004, printed out all the environmental disclosures identified and also applied a volumetric approach). Notably Zéghal and Ahmed (1990), Tilt (1994) and Unerman (2000) have employed a much wider array of CSR sources as sampling unit, including e.g. brochures and advertisements and several internally circulated bulletins and other *ad hoc* documents published in each year (see also Lewis *et al.*, 1984, for a study considering publications to employees).

Nevertheless, as Unerman (2000) points out, “a limit must be set to the range of documents included in any research study... [due to the risk of] a researcher being overwhelmed by the number of documents... [and of not being] possible to ensure completeness of data” (p. 671. See also Campbell, 2004, for an account of feasibility factors that might also be at play). Further, it is almost impossible to identify all corporate communications that could possibly contain CSR information (O'Dwyer, 1999; Guthrie *et al.*, 2004) and it thus seems similarly impossible to identify all the CSR activities of the examined organisations. It, therefore, seems justifiable for studies to employ Annual and standalone reports as the sampling unit as these should contain the bulk of the disclosed CSR information. Ultimately, the sampling unit for each study depends on the set research objectives (Unerman, 2000) and also on the

adopted definition/context for CSR that determine the ‘population’ on which inferences are to be made. These issues are now reviewed in more detail.

Context units

Context units are defined by Berelson (1952) as “the largest body of content that may be examined in characterizing a recording unit” (p. 135). As Krippendorff (2004) elaborates:

“the meaning of a word typically depends on its syntactical role within a sentence. To identify which meaning applies to a word from a list of dictionary entries, one must examine the sentence in which the word occurs. How else would one know, for example, whether the word go is meant to denote a game, an action, or a command? Here, the sentence is the context unit and the word is the recording unit” (p. 101).

Unlike sampling units, which appear to be a widely accepted and undisputed term, “much of the discussion on the ‘unit of analysis’ confuses the issues of what should form the basis for coding with what should form the basis for measuring or counting the amount of disclosure” (Milne and Adler, 1999, p. 243, see e.g. Gray *et al.*’s, 1995b, assertion that “Sentences are to be preferred if one is seeking to infer meaning... [but] Pragmatically, pages are... easier... unit to measure by hand”, p. 84, also Guthrie *et al.*, 2008 for similar arguments). Part of this confusion may be generated from the use of different and at times opposite terms from researchers (e.g. Milne and Adler’s (1999) *coding units* are what Krippendorff (2004) describes as *context units* and Neuendorf (2002) as *analysis units*, whilst Milne and Adler’s *measurement units* are Krippendorff’s *recording/coding units* and Neuendorf’s (2002) *data collection units*, see also Walden and Schwartz [1997]; Unerman [1998, as cited by O’Dwyer, 1999, pp. 229-232]; O’Dwyer [1999], for alternative interpretations). In this paper, Krippendorff’s (2004) terminology is adopted, in accordance with a number of other prominent CA theorists (Grey *et al.* 1949; Berelson, 1952; Osgood, 1959; Stone *et al.*, 1966; Weber, 1985; 1990).

Most of the CA studies refer to a single unit of analysis, that being most frequently the recording unit for the volumetric studies and the context unit for the index ones. This is not surprising given that in the index studies where most frequently the recording unit is the presence or absence of specific information, the unit that usually needs attention is the context one (see e.g. Patten and Crampton, 2004, pp. 39-40, for an illustrative account on how sentences were used as a basis for coding for their index). In contrast, for volumetric studies the recording units seem to be of more importance, whilst for the context units, since unlike sampling and recording ones they “are not counted, need not be independent of each other, can overlap, and may be consulted in the description of several recording units” (Krippendorff, 2004, p. 101) researchers do not often explicitly discuss their choices (but see Zéghal and Ahmed, 1990) and meaning is coded perhaps by section heading, phrase or sentence (Buhr, 1994; Campbell, 2004).

There seems to be no logical limit for the size of the context units: As Krippendorff (2004) notes “sentences are the minimal context units for individual words, but sentences may not be enough” (p. 101) and at times, when e.g. decisions on a positive or negative context of a commentary are made, “analysts might need to examine even larger context units, such as a paragraph or a whole speech.... The best content analyses define their context units as large as is meaningful (adding to their validity) and as small as feasible (adding to their reliability)” (*ibid.*, pp. 101-102). With regards to this, Milne and Adler (1999) demonstrate that “sentences are far more reliable than any other unit of analysis” (p. 243) and further assert that “Most social and environmental content analyses in fact use sentences as the basis for coding decisions” (*ibid.*).

Naturally, researchers need to clearly define their context units before commencing recording them. Abbot and Monsen (1979) seem to consider a prominent type of error in CA to be “the formulation of categories that do not reflect all the issues actually contained in the report that are of policy interest” (p. 506). As Holsti (1969a) points out, “categories should *reflect the purposes of the research*, be *exhaustive*, be *mutually exclusive*, *independent*, and be derived from a *single classification principle*” (p. 95, emphasis in original). It seems particularly useful in CSR research to establish

clear rules as to what consists CSR and what does not, a problem largely stemming from the variety of definitions of the field, that are “generally too exclusive... or too all-embracing” (Gray *et al.*, 1995b, fn4, p. 89)⁹. As Milne and Adler (1999) empirically attest for inter-rater reliability, “by far the greatest proportion of disagreements concerned whether a particular sentence was or was not a social disclosure regardless of the coder. If coders had agreed to a sentence being a social disclosure (regardless of which theme) they were relatively unlikely to disagree over which theme, what sort of evidence and what type of news characteristics the sentence contained” (p. 252).

In the literature four major ‘themes’ (what Holsti, 1969a refers to as manifest subject of information, not inductively generated) for CSR are employed: marketplace (consumers, creditors), workplace (employees), community, and environment, but there will always be a need for a development of an ‘other’ category (Gray *et al.*, 1995b). This classification was employed in the coding spreadsheet of the BA study, which for illustration purposes is depicted in Figure 1. This spreadsheet was based, among others, on Ernst and Ernst (1978) and Gray *et al.* (1995b) CSD classifications, as well as those of the GRI (2002), which Erusalimsky *et al.* (2006) consider, along with AA1000, to “perhaps represent the very base, the entry-level for analysing reporting in an even vaguely serious manner” (p. 19)¹⁰.

⁹ This variety of definitions is also reflected in the number of alternative terms that at times have been offered to even term the field, including: Corporate Social Reporting (Gray *et al.*, 1988; 1995a); Social Accounting (Gray, 2002; Gray *et al.*, 1997); Social and Environmental Accounting (Mathews, 1997; Gray, 2006); Social and Environmental Accounting and Auditing (Owen, 2004); Social and Environmental Accountability (Parker, 2005); Social Responsibility Disclosure (Trotman, 1979; Neu *et al.*, 1998); Corporate Social and Ethical Reporting (Adams, 2002); Ethical Reporting (Adams, 2004); Despite that these, as Epstein (2004) notes, “are all terms used to describe the measurement and reporting of an organization’s social, environmental, and economic impacts, as well as society’s impacts on that organization, including both positive and negative impacts”, and that the adoption of a specific term for CSR may sufficiently serve the short-term needs of a ‘pragmatically-oriented’ research paper, it should be noted that this also adds to the long-term confusion over the terminology and the (much sought [Parker, 2005]) conceptual framework of the area. Naturally, the adoption of different definitions and resulted context categories further prohibits meaningful comparative analyses of the findings of the papers.

¹⁰ Note that this was a multiple classification protocol, in that each coding unit was classified into more than one category, based on the condition that each entry may have more than one attribute. It should be further noted though that the gain from the adoption of this multiple classification in semantic precision does not outweigh the potential losses from logical distinctiveness and exclusiveness since “not all entries need have the same attribute to the same extent” (Weber, 1990). This is particularly the case when latent rather than manifest classification schemes are examined, as further discussed in section 6.

Further, it seems reasonable to take a more ‘pragmatic’ rather than ‘classical’ approach and suggest that the categories of each study should also reflect the set research objectives: in the BA study the categories reflect the focus on the CSD effects of aviation accidents and subsequently the Health and Safety disclosures, whilst for Deegan *et al.* (2002) the categories reflect their focus on Human Resources. Holsti (1969a) considers “reflect[ing] the investigator’s research question... the most important requirement of categories” (p. 95) and warns that “Unless theory and technique are intimately related, even the minimal requirements of validity cannot be met” (p. 94). This however should not necessarily be the case for general CSR surveys, where the adoption of a more ‘standardised’ approach may increase comparability and cumulative research (Berelson, 1952).

Take in Figure 1

Further consideration of the CSR subject categories is beyond the scope of this study. However, as indicated in Figure 1, when reviewing and deciding on the context units all the alternative ways to define CSD need to be set and clearly defined. For the BA study further distinctions on the type of disclosure (positive or negative) and the possible underlying corporate strategy (3 substantive and 3 symbolic) as well as on whether CSD was mandatory or voluntary and narrative or non-narrative were included. This resulted in overall (19 choices of theme) x (7 choices of strategy) x (3 choices of type) x (2 mandatory/voluntary) x (2 narrative/non-narrative) = 1,596 possible choices for coding each individual CSD. These distinctions will be discussed more extensively in the related findings section.

Recording/coding units

Recording/coding units are defined by Holsti (1969a) as “the specific segment of content that is characterized by placing it in a given category” (p. 116). As Krippendorff (2004) elaborates:

“Whereas sampling units are distinguished for inclusion in or exclusion from an analysis, ideally in a way that acknowledges natural boundaries, recording units are distinguished to be separately described or categorized. Thus recording units are typically contained in sampling units, at most coinciding with them, but never exceeding them” (pp. 99-100).

Whilst for the basis for coding researchers seem to concede that “Sentences are to be preferred if one is seeking to infer meaning” (Gray *et al.*, 1995b, p. 84, see also Milne and Adler, 1999; Unerman, 2000), with regards to the basis for measuring, “once the content has been coded... quantification may be done in a number of ways” (Milne and Adler, 1999, p. 243). Indeed, researchers have at times employed a variety of different approaches to measurement, often justifying their choice on the empirical evidence (Grey *et al.*, 1949; Patten, 1992; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Hackston and Milne, 1996; Williams, 1999; Campbell, 2000) which gives support to the suggestion “that measurement error between various quantification techniques is likely to be quite negligible” (Milne and Adler, 1999, p. 243). However, as now illustrated, each unit has its distinct advantages and disadvantages which need to be considered when selecting units and interpreting results.

The four types of recording units considered here are words, sentences, proportion of pages and page size data¹¹. A summary of a number of issues of concern drawn from the literature regarding these units is provided in Table 3.

Take in Table 3

¹¹ Wiseman (1982) and Patten (2002b) also counted lines, in a complementary manner to an ‘index’ CA. Lines have also been employed by e.g. Bowman and Haire (1975; 1976) and Trotman and Bradley (1981), but in order to estimate the proportion of the total discussion on all issues. Davey (1982, cited in Guthrie and Mathews, 1985, pp. 258-259) interestingly determined the volume of disclosures by calculating words as composed of five characters and a one character space (six characters in total), in essence a character-based quantification, similar to the one adopted by Tinker and Neimark (1987). Although, it should be acknowledged that, particularly characters could possibly bring extra precision in measurements, as Milne and Adler (1999) note for words, this “seems unlikely to add to understanding” (p. 243). It is further assumed that the arguments behind the potential use of these units are subsumed in the discussion of e.g. words or sentences. Further, Burritt and Welch (1997) counted passages/ thematic units, an approach to measurement, however, highly contested given that equal sovereignty was granted to issues discussed in one sentence with others in whole paragraphs, where further reliability is very difficult to be attained (Holsti, 1969).

Words, sentences and proportion of pages

As illustrated in Table 2, a number of CSR studies have employed words or sentences as the recording unit. As further illustrated in Table 3, these two approaches share a number of benefits and limitations and their inter-relation has been empirically validated as early as 1947 (Dollard and Mower, 1947). Both approaches do not account for differences in typeface within the document (Hackston and Milne, 1996) or for repetitions in the information (Patten, 2002a); however, both approaches are not affected by variations in the general font size of different documents (Tilt and Symes, 1999) or by the presence of margins or blank pages (Gray *et al.*, 1995b) nor by whether the sources are in an electronic (particularly internet or .pdf files) or in microfiche form (Campbell, 2004) and they generally seem to “lend themselves to a more controllable analysis” (Gao *et al.*, 2005).

Compared to sentences, words seem to have the advantage of being “the smallest unit of measurement for analysis and can be expected to provide the maximum robustness in assessing the quantity of disclosure” (Wilmshurst and Frost, 2000, p. 16). As Krippendorff (2004) similarly argues “To ensure agreement among different analysts in describing the coding/recording units of a content analysis, it is desirable to define these units of description as the smallest units that bear all the information needed in the analysis, words being perhaps the smallest meaningful units of text... and the safest recording unit for written documents” (pp. 100, 104). Further, words as the recording unit may also assist by allowing the inclusion of tables in the analysis (but see Hackston and Milne’s, 1996, approximation for one table line to equal one sentence, which allows tables also to be captured when using sentences as the recording unit).

A number of studies, though, have questioned the usefulness of the additional detail in measurements from employing words rather than sentences. Researchers note that the “tedious exactitude” (Patterson and Woodward, 2006, pp. 21-22) of words “seems unlikely to add to understanding” (Milne and Adler, 1999, p. 243) and put forward arguments for the use of sentences, since these are also “easily recognizable

syntactically defined units of text” (Krippendorff, 2004, p. 105), they may be quantified with greater measurement accuracy (Unerman, 2000), they are thus subject to less inter-coder variation (Ingram and Frazier, 1980; Deegan *et al.*, 2002) and overall seem to be able “to provide complete, reliable and meaningful data for further analysis” (Milne and Adler, 1999, p. 243).

A strong argument, however against employing either words or sentences as recording units “is that this will result in any non-narrative CSR disclosures (such as photographs or charts) being ignored” (Unerman, 2000, pp. 675). As Beattie and Jones (1997) have argued particularly with regards to graphs, approximately 80% of leading US and UK companies use them in their Annual Reports; these are more user-friendly than tables; and graphs, especially in colour, attract the reader’s attention; additionally “the reader’s ability to remember visual information is normally superior to that for remembering numerical or textual information” (Beattie and Jones, 1997, p. 34, a justification supported by Leivian, 1980). Photographs have also been used to present and highlight what companies wish to portray (Preston *et al.*, 1996) and it seems that the role of graphic representation in corporate external financial reporting is being recognised increasingly by a number of national regulatory bodies, such as the Canadian Institute of Chartered Accountants (Beattie and Jones, 1997). It is thus evident that this information needs not to be excluded from CA studies (see also similar arguments by Berelson, 1952; Stone *et al.*, 1966).

In an attempt to capture this valuable non-narrative information, a number of researchers employ proportions of a page as recording unit. Researchers frequently lay an A4 grid with twenty five rows of equal height and four columns of equal width (but see e.g. different A4 grids by Guthrie and Parker, 1989; Hackston and Milne, 1996; and Newson and Deegan, 2002) across each CSR disclosure, “with volume being counted as the number of cells on the grid taken up by a disclosure” (Unerman, 2000, p. 676). The main benefit of this approach, other than capturing the information provided in a pictorial, tabular, graphic or large typeface form, is that it generates detailed measurements and comparable findings across reports of the same and different companies.

The proportions of a page approach, however, has been also criticised for a number of reasons, mainly due to that it takes as data only dictated attributes of the content (statements about the content made by the analyst or participants in the research) and not the content itself, which results in arbitrarily created visual recording units (Ekman *et al.*, 1969; Paisley, 1969). Given further that “it is difficult to place an objective measure on pictures and diagrams” (Deegan *et al.*, 2000, p. 118) researchers often find it difficult to decide on whether this information is CSR or not, and then on how to classify it. As Newson and Deegan (2002) note, “in a number of cases, the expert coder regarded photographic evidence referring to employees in a work environment as less relevant than photographic evidence highlighting employees celebrating acts of achievement” (p. 193). In addition, as Wilmshurst and Frost (2000) note, although arguably pictures may be worth a thousand words (but which words?), “to include them in a measure based upon an unweighted word count is highly subjective” (p. 17).

Further limitations of the proportions of a page approach include that this approach is affected by different font and page sizes (Tilt and Symes, 1999; Paterson and Woodward, 2006); that an additional area of subjectivity is introduced with regards to the treatment of margins and blank pages (Gray *et al.*, 1995b; Unerman, 2000); that the approach is similarly affected as words and sentences by the differences in grammar and repetition¹² (Patten, 2002a); that the additional thoroughness and effort required in the use of the grid for recording increases the possibility for measurement errors (Milne and Adler, 1999); and that it is impossible to directly record data in an electronic (e.g. internet or pdf) or microfiche form (Campbell, 2004). It should be noted that, even if it is attempted to print (as Patten and Crampton, 2004, did) or type (as Ingram and Frazier, 1980, did) data in one of these forms, this would still result in some distortion to the size and context (e.g. margins, font and page sizes are often affected). Thus, the inherent limitations of this approach lend support to researchers to reject it and, albeit acknowledging the losses from the exclusion of pictorial or graphical evidence, to adopt words or sentences as recording units.

¹² Although Unerman (2000) points out the possible limitations arising from differences in the use of grammar when he discusses sentences, it should be noted that grammar and repetition are context issues and thus affect all recording methods.

Page size approach

In an attempt to employ an alternative and more valid method for CSR measurements, a number of studies adopt, implicitly or explicitly, a page size approach (where “the written and pictorial part of a page... [is] considered to be the page itself”, Gray *et al.*, 1995b, fn16, p. 90). The basic tenet of this analysis is that when measuring the extent of disclosures the collected data should be considered in conjunction with the physical source from which they are extracted. Most frequently researchers attempt to estimate CSD as proportion to the whole discussion in the report, often on a line-by line (Bowman and Haire, 1975; 1976; Trotman and Bradley, 1981) or on a sentence-by-sentence (Salama, 2003; Hasseldine *et al.*, 2005) basis. However, even when authors such as Dierkes (1979) report that they measure the extent of CSD in number of pages of each report (or as quarters of a page of each report, as in Gibson and Guthrie, 1995), this implies that a page – size rather than a standardised proportions of an A4 page approach was adopted. Major limitations of this approach are that researchers do not seem to include pictures when employing it and, even more importantly, that it would have been meaningless to adopt it in a research examining standalone reports, where it has been suggested (Buhr, 1994) that coding should commence on the assumption that everything should be considered CSD apart from some pre-specified information.

Hackston and Milne’s (1996) study is a potentially more credible adaptation of a page size approach. The authors originally sentence-coded and measured their data sets and then constructed an approximation to page measurement from these data: firstly, “the average number of sentences per page of the chairman’s report for each annual report was calculated. The average for each report was then divided into the total number of social disclosure sentences for that report to produce a derived page measurement for each company” (p. 86). Despite their acknowledged crudeness of this measure, when some refinements are made to it (more sentences from pages containing non-pictorial information are included in the estimation of the average and a detailed page adjusted

grid is also employed to account for the space of non-narrative disclosure)¹³ it may provide more valid results with than the proportion of page approach.

As illustrated in Table 3, this approach is not affected by the report or font sizes, neither by the margins and blank pages, and although it provides less detailed measurements, it is easier to measure and further is not affected by a possible pdf/microfiche form of the text (even if printing affects the documents' size, it still has no effect on page size measurements); it thus seems to capture in a more valid way than the proportion of a page approach the information identified as CSR, particularly given its triangulation benefits from the additional use of sentences, and to further generate more reliable results. However, given that the generated data are in a page size and not in a standardised A4 page form, this implies that the derived measure (similarly to the proportions of the report one) could provide meaningful average CSD approximations but crude aggregate figures unless the average sentences per report of all added derived measures is known and adjustments are made; thus for the purposes of a database such as the one of the Centre for Social and Environmental Accounting Research (CSEAR), the employment of standardised proportions of A4 pages is deemed more suitable to avoid tedious adjustments.

The BA study utilises a refinement to Hackston and Milne's (1996) page size approach. To further increase the validity of their instrument all pages containing solely narrative information per report were considered for the calculation of the average number of sentences per page. Further, all pages in microfiche form containing non-narrative information were firstly printed in a A4 format; then as illustrated in Figure 2, a clear plastic A4 acetate was employed to draw a page-size grid with six rows of equal height and eight columns of equal width and the proportions were estimated to the nearest 1% of a page (for the documents in electronic form a specialised pdf reader software, incorporating a detailed 25x35 cell 'grid' view, was employed)¹⁴. Despite the fact that the page grid employed for the

¹³ Tinker and Neimark (1987) in an attempt to develop an aggregate textual and pictorial character measure of CSD "by counting the number of textual characters that would fit into the photographs that address the subject" (p. 80) seem to employ a similar measurement approach.

¹⁴ Note that a number of practicalities may arise when it is attempted to estimate the 'average' page size, both in terms of sentences and in terms of written and pictorial space of the report: e.g. in BA (2000) there seem to be 2 main types of pages, including on average either 24 or 44 sentences, in which

data in microfiche form was not as detailed as the ones employed by Gray *et al.* (1995b) or Unerman (2000), (but was still significantly more detailed than quantifications on the basis of the nearest tenth or even quarter of a page [e.g. Guthrie and Parker, 1989] that seems to have been employed in a number of earlier studies [Hackston and Milne, 1996]) since only tables, images and narratives in large typeface were recorded in this manner, it was considered that the use of a more detailed grid would add more to the possibility of measurement errors rather than to the validity of the findings.

Take in Figure 2

It should be noted, however, that when Hackston and Milne (1996) later employed a proportion of a page approach, they found “extremely high correlations between the three measures of disclosure amount (measured pages, derived pages, and number of sentences)” (p. 93, note that non-narrative information was excluded). In essence, this finding suggests that the theoretical advantages that the page size approach possesses (with regards to report and font sizes, margins and blank pages) do not hold in practice and both approaches are equally valid in measuring CSD. In this case, the remaining benefits of the page size measure is the increased reliability due to the ease in measurements and validity from considering pdf/microfiche in a more accurate manner (Hackston and Milne, 1996, did not check for those) and from triangulating with sentences, whilst the proportion of a page one maintains the benefits in detail and in straightforward aggregate comparability of the findings (but in A4 and not in actual page size terms).

It seems therefore that, given that words and sentences do not account for non-narrative information, page size and proportion of a page approaches are more suitable. If detailed empirical investigation, involving all measurement techniques and examining both narrative and non-narrative information and possible effects of pdf/microfiche printouts reveals high correlations, this would grant validity to both and the choice should be then clearly subject to the research objectives. If however

case a weighted average number of sentences per page was estimated. A similar approach was employed to estimate the average page size grid of the report to measure the pictorial space.

these correlations are not identified, and if the investigation does not provide any indication on which technique is more suitable, then probably page size data should be considered the superior recording unit, given the theoretical advantages and the additional validity gained from the sentence counts. It should always be remembered, though, that this discussion on the recording units of volumetric studies is based on the assumption that volume indicates importance. However, volume is not always equivalent to the content of CSD (Patten and Crampton, 2004) and it seems that “asking the right question of the data is even more important than the system of enumeration used to present the findings” (Holsti, 1969a, p. 12). The following discussion negotiates these issues.

Defining units

In this section ways of defining/classifying the context units in CA to further increase the method’s contribution to researching CSR are discussed. According to Krippendorff (2004), units in CA can be identified according to one or more of five kinds of distinctions: physical, syntactical, categorical, propositional, and thematic. As the following discussion reveals, categorical and thematic distinctions are of more relevance to CSR research and are now respectively reviewed¹⁵.

Categorical distinctions

Categorical distinctions define units “by their membership in a class or category – by their having something in common” (Krippendorff, 2004, p. 105) and are by far the ones most frequently employed in CSR research. Common characteristics of these

¹⁵ Physical distinctions relate to time, length, size or volume but not information and they have been thus largely considered in the preceding section. Syntactical distinctions relate to the grammar of the medium of the data. Arguably “no content analysis can ignore grammar” (Deese, 1969, p. 42); to the extent however that these distinctions involve the selection of a recording unit from e.g. words or sentences, they have been considered in the preceding section whilst to the extent that these relate to the consequences on CA from differences in grammar in the context of the reports, a detailed discussion on those, albeit interesting, is beyond the scope of this paper. Propositional distinctions relate to decomposing language to identify certain linguistic relations and as with syntactical distinctions, despite their potential contribution (see e.g. Clatworthy and Jones, 2006) are beyond the scope of this paper.

distinctions are that they can all be quantified; that to a certain extent, they mostly focus on the manifest rather than the latent content and the syntactic and semantic dimensions of communication, and that they are all deductively defined (and thus, as opposed to subject categories, they all relate to a theoretical framework [Stone *et al.* 1966]). Clearly, however, these approaches are not equally useful in contributing to CSR research. As Table 4 illustrates four types of categorical distinctions were identified, one of them regarding the type of CSD (positive, negative and neutral) and three regarding the quality (monetary vs. non monetary; general vs. specific, and substantive vs. symbolic).

Take in Table 4

Positive vs. negative

A number of large-sample studies have revealed that managers “attribute negative organizational outcomes to uncontrollable environmental causes and positive outcomes to their own actions” (Abrahamson and Park, 1994, p. 1302, see also Bowman, 1976; Bettman and Weitz, 1983; Staw *et al.*, 1983; Salancik and Meindl, 1984 for similar arguments). Pfeffer (1981) suggests organisations would be expected to adopt strategies involving “the selective release of information which is... defined along criteria more favourable to the organization... measured along criteria which are more readily controlled by the organization, and... acceptable to those interested in the organization” (p. 30).

In an attempt to investigate these propositions, a number of CSR studies have often employed the positive vs. negative distinction for CSD, one of the earliest CA distinctions dating back to the 1640s and some studies of censorship (Stone *et al.*, 1966; Rosengren, 1981) and e.g. Patten and Crampton (2004) illustrate that that the annual report contains proportionately more negative data than does the website suggesting that “the focus of Internet disclosure may be more on corporate attempts at legitimation” (p. 31). There are, however, some theoretical and practical limitations encountered when using this approach. In theory, for example, organisations may

disclose a significant quantity of positive information to satisfy targeted stakeholders (Pfeffer, 1981) indicating a more opportunistic organisational stance towards CSD (Gibbins *et al.*, 1990) but they may also do so because this simply reflects their reported actions. And when conducting CA it is often difficult to e.g. differentiate between a positive and neutral disclosure and achieve consistency and comparability across studies. In these cases, as Weber (1990) underlines, “perhaps the best practical strategy is to classify each word, sentence or phrase in the category where it most clearly belongs” (p. 36).

It seems, therefore that the positive or negative CSD when considered *per se* can not contribute significantly to CSR analysis. On the contrary, more sustainable arguments seem to be built when the positive or negative CSD is related to similarly classified evidence from e.g. news papers or periodicals, related to community concern (Guthrie and Parker, 1989; Deegan *et al.*, 2002), or when, as in the BA study, the changes in this type of reporting are considered as potential reaction to major social accidents. Under all circumstances, this distinction is even more useful when viewed in relation to an approximation to CSD quality, as discussed below.

Substantive vs. symbolic

Often researchers attempt to assess the quality/evidence of the disclosure. Hammond and Miles (2004) offer a comprehensive account on quality assessment of CSR and note that what is most frequently regarded as quality disclosure is quantitative disclosure, third party verification and the adoption of reporting guidelines and standards. Most frequently CA index studies on the basis of disclosure/ non disclosure have been employed to assist in both third party verification (Ball *et al.*, 2000; O’Dwyer and Owen, 2005) and adoption of reporting guidelines (Jones, 2006; Movena *et al.*, 2006; Turner *et al.*, 2006). This type of assessment though is limited “as this precludes assessment on scope, coverage, completeness, relevance, reliability, and other such desirable qualities of external financial statements” (Hammond and Miles, 2004, p. 64).

Whilst both third party verification and adoption of reporting guidelines are relatively new CSR research fields, CA studies employing the basic distinction of quantitative vs. qualitative have a long history and are frequently identified in the CSR literature. Behind this evidence, there is the intent of researchers to identify whether companies disclose hard-fact, substantial information or not. However, a major limitation of this distinction is that it is not normatively rooted; as Erusalimsky *et al.* (2006) note, “Content analysis got us so far but more substantive, explicitly normative templates would seem to be essential to guide future work” (p. 19). With regards to this distinction, it is uncertain whether all the quantitative information that companies disclose is of relevance (since they may as in the BA study disclose some CSR data of the industry) or that all declarative statements are of less importance (e.g. description of policies adopted providing specific examples). Likewise, it is unlikely that the general vs. specific distinction that was also identified in the literature (De Villiers and Van Staden, 2006) would be of particular usefulness to CSR, considering that it brings some relatively limited benefits in context (by focusing on more normatively oriented, latent information) comparing to the limitations in validity (in case that an index approach is employed, as in De Villiers and Van Staden [2006]) or reliability (from the otherwise possibly vague definitions).

A more useful CA distinction, based on Legitimacy Theory, appears to be the substantive vs. symbolic distinction. This distinction was suggested by Pfeffer and colleagues (Pfeffer and Salancik, 1978; Pfeffer, 1981, see also Meyer and Rowan, 1977; Richardson, 1985; Ashforth and Gibbs, 1990; Suchman, 1995; Weisul, 2002 for related arguments) and has not been employed widely in the CSR context (but see Savage *et al.*, 2000; Day and Woodward, 2004; for exceptions). Substantive legitimation is evident in the works of Rousseau and Habermas and involves “real, material change to organizational goals, structures and processes, or in socially institutionalized practices” (Savage *et al.*, 2000, p. 48). Symbolic legitimation on the other hand traces its roots to the work of Marx and Weber; it involves “the symbolic transformation of the identity or meaning of acts to conform to social values” and is predicated on that “the acceptance of authority resides in the *belief* in the legitimacy of the order independently of the validity of that order” (Richardson, 1985, p. 143, emphasis in original).

Drawing on organisational theory and their own research, Savage *et al.* (2000) have offered 12 legitimisation strategies, three substantive and nine symbolic which could also incorporate the oft cited strategies by Perrow (1970), Lindblom (1994) and O'Donovan (2002) and are presented in Appendix A (I). However, when it was attempted to apply this framework as such in the BA study it was quickly realised that some of the symbolic strategies were easily conflated and it was decided to merge some categories, adopt a more 'pragmatic' approach and customise it to reflect the set research questions, focusing on the impacts on CSR of detrimental activities. This resulted in the employment of six legitimisation strategies, as depicted in Appendix A (II). The new categories were thus less ambiguous, although it should be noted that two categories, the role performance and the identification of symbols, end up being used more often (arguably, there is no way out of this unless complicated, exhaustive and time consuming decision rules are established allowing for the use of more detailed categorisations).

The main benefit of this distinction, albeit categorical, is that it assists in identifying some latent characteristics of the data. Further, since parts of these arguments may also lend support to other theoretical frameworks (such as institutional theory, business ethics theory, resource dependence theory and even image and competitive advantage arguments), the categories may also identify relationships between these theories and synthesise theoretical arguments underpinning CSR research (as in e.g. Roberts and Chen, 2006). However, as in the case of the positive vs. negative CSD, some theoretical inconsistencies may also arise from the adoption of this approach and e.g. even more 'ethics'- oriented organisations, following a major legitimacy threat, may disclose increased symbolic rather than substantive CSD through admitting guilt and offering apologies. As also pointed out earlier, therefore, if this categorical approach is complemented with a clearly inductive one, in a mixed CA design, this would further bring some triangulation benefits to the analysis. Two of these approaches are now discussed.

Thematic distinctions

Although Boyatzis (1998) considers that “a theme may be identified at the manifest level or at the latent level”, Berelson (1952), Holsti (1969a) and Krippendorff (2004) seem to agree that thematic distinctions, as opposed to the categorical distinction of the oft termed ‘theme’ (the subject) of the disclosure described in the CA protocols, such as the one depicted in Figure 1, refer to “unitizing freely generated narratives thematically” (Krippendorff, 2004, p. 107). Two such approaches were identified in the reviewed literature. Both did not take a quantitative form, therefore may consist of a CA in the broader view, as defined by Stone *et al.* (1966), Holsti (1969a,b) and Krippendorff (1969).

Quantising – Miles and Huberman (1994)

A number of CSR studies explicitly or implicitly adopt the approach to data analysis suggested by Miles and Huberman (1994), which Ritchie and Lewis (2003) have adapted and graphically represented as an analytical hierarchy of the stages and processes in qualitative analysis. This ‘quantising’ approach of Miles and Huberman (1994) involves primarily three forms of activity: data management in which the raw data are reviewed, labelled-coded, sorted and synthesised; descriptive accounts in which the analyst makes use of the ordered data to identify key dimensions, map the range and diversity of each phenomenon and develop classifications and typologies; and explanatory accounts in which the analyst builds explanations about why the data take the forms that are found and presented (Ritchie and Lewis, 2003).

CSR authors have adopted this analytical perspective with variations regarding the precision with which they conducted each stage of the analysis. Owen *et al.* (2000), Woodward *et al.* (2001), Adams (2002) and Roslender and Fincham (2004) presented their findings by set preposition, or under interest topic, implying at least the use of the identification of initial themes and sorting data by theme or concepts steps of the hierarchy, and then moved straight to develop explanations. O’Donovan (2002) identified themes and patterns, detected cross patterns with his quantitative data set and moved to develop explanations, applying rather loosely the analytical hierarchy,

although he followed a systematic approach to combine the qualitative with the quantitative data in the analysis stage. O'Dwyer (1999; 2002; 2003; 2004) on the other hand, explicitly adopted the Miles and Huberman's (1994) approach by identifying underlying themes, developing a coding scheme, summarising and synthesising data, identifying cross case patterns in the data and detecting regularities and developing explanations in the evidence collected. He was also cautious in the last-generalisation-step to avoid presenting a "smoothed set of generalisations that may not apply to a single 'interview'" (Huberman and Miles, 1994, p. 435) and made efforts to preserve the uniqueness of certain individual interviews (see particularly O'Dwyer, 2004, for a more detailed and focused description of his approach).

The distinct benefits of this approach include that it offers a simple, grounded and therefore quite valid approach to qualitative analysis, which allows for all variation in themes and topics to be revealed and captured. This is particularly useful when exploratory research is conducted and the widest possible variety of themes is sought. Further, although this method of data analysis is primarily qualitative, as Easterby-Smith *et al.* (2002), note "it is still possible to introduce some element of quantification into the process" (p. 119), particularly when employing some computer aided qualitative analysis software. However, even more structured approaches to thematic analysis may be adopted, as discussed in the next section.

The variation of Bebbington and Gray (2000)

Bebbington and Gray's (2000) methodological approach was similar to that of Miles and Huberman (1994) in a number of ways: all three forms of activity identified by Miles and Huberman (1994) were undertaken; following data management, some descriptive categories were created; and, following the synthesis of the data, explanatory accounts were developed. With regards to data management, though, Bebbington and Gray (2000), implicitly drawing on Yin (1989), follow a three-step approach: the authors firstly describe their research questions and explain what data need to be collected to address them: e.g. to investigate who appears to be educating corporations about sustainable development, the authors explain that this issue "is addressed by examining the various definitions of sustainability which are used by

corporations and by studying which organisations are influencing companies' understanding of sustainable development (Bebbington and Gray, 2000, p. 20). Then, some so-called 'semiotic' categories are developed, based on the research questions and the literature, by identifying various sustainability definitions from major organisations that might have possibly influenced the examined companies' stance. Subsequently:

“an examination of the disclosures using these categories was then undertaken and an initial identification and classification of these disclosures attempted. These initial categories, however did not prove sufficient for analysis... as a result, the categories were further refined drawing again from the relevant literature... [and] were also added inductively from the analysis of the environmental reports themselves” (*ibid.*, pp. 21-20).

Thus, the data management approach adopted is in accord to both 'pattern matching' (where “an empirical pattern is compared with a predicted pattern, following the theoretical propositions of the framework”) and 'explanation building' (where the objective is to build a general explanation that fits each of the individual cases) qualitative analysis techniques, dictated by Yin (1989, pp. 108-109) for multi-case explanatory research designs. Evidently, following 'pattern-matching', by noticing that some data could not have been explained by their initial categories, Bebbington and Gray (2000) revisited those, and thus, modified their theory, in an attempt to explain all the data.

In contrast to the Miles and Huberman (1994), this approach employs originally theory-driven 'pragmatic' codes (see also Unerman [2003] for a similar approach), and thus, despite the subsequent attempts to explain all text, this still damages the method's qualitative orientation. Further, it should be noted that undertaking this analysis is time consuming, albeit considerably more time efficient than the Miles and Huberman approach. An additional limitation may be that this approach is not as easily quantified as that of Miles and Huberman, since usually a smaller number of codes is generated. Still, this approach is in accord to Holsti's (1969b) suggestion for “continual moving back and forth between data and theory” (p. 116) and even when not coupled with quantitative analysis, it can still provide the research with a

particularly useful qualitative perspective. Mainly for the reasons of being a more 'pragmatic' and time-economic approach than that of Miles and Huberman, it was also employed in the BA study.

Conclusion

The conclusions that may be drawn from this review are related to the discussed three areas of concern. Firstly, with regards to the index vs. amount/volume approaches: it seems that nowadays, with so much CSR information disclosed, volumetric studies may contribute more to the analysis than index ones. Index measures, however, do have some distinct advantages over volumetric ones in that, to the extent that the presence or absence of specific information is sought, particularly when "what is not disclosed...[is] seen as important as that which is" (Adams and Harte, 1998, p. 783), they are not significantly affected by contextual issues, such as repetition or grammar and since they further have clearly defined measurement units they are more reliable.

Secondly, with regards to the units of analysis: similarly to Unerman (2000), it should be noted that the selective use of information, relatively to both the sampling units (e.g. exclusive use of Annual Reports) and the recording units (e.g. exclusive consideration of narrative CSD) limit significantly the validity of the findings. Further, with regards to volumetric recording units, it seems that at least in theory, page size data are superior than proportion of page data (particularly considering that the former count the narrative information in some textual unit whilst the latter measure it in essence, in terms of square centimetres). Future research should focus on monitoring the reliability and validity particularly of these two measures, given that they seem to be the only ones which can consider non-narrative CSD in the analysis. This however in view of the fact that tables, graphics, pictures and text are all different things and to attempt to develop an aggregate measure for all of these is highly subjective. Overall, it seems that the main causes for measurement errors and general discrepancies in validity and reliability of the studies are the misspecifications of the context units, which may be partially addressed by the employment of more meaningful approaches to definitions.

Thirdly, with regards to the ways to define CA units: it seems that traditional distinctions, such as monetary vs. declarative or even positive vs. negative need to be complemented with more meaningful approaches. These can either take the form of explicitly normative templates that could be included in a CA protocol and be quantified, such as the symbolic vs. substantive distinction, or take a more qualitative form, of a varying degree of structure, such as the two reviewed thematic approaches. In either case, when conducting qualitative CA analysis it is equally important to follow a clearly justified and specified approach to the analysis, to enhance both validity and reliability of the findings.

Three main potential fruitful venues for further research may be identified. Firstly, a review focusing on the qualitative approaches subscribing to the broader CA view, including the distinct systematic ones, such as grounded theory and discourse analysis, could assist in clarifying their relationships and their potential contribution to CSR. Secondly, a review of contemporary CA studies in other fields and consideration of potential applicability to the CSR practice, as in e.g. the cases of Lasswell *et al.* (1949), Stone *et al.* (1966) and Gerbner *et al.* (1969), could save the field from reinventing wheels (Owen, 2004). Thirdly, a similar review of computer software (such as NUD*IST, as presented by Beattie *et al* [2004]) in CA would be also of particular interest. With regards to the latter, it should be noted that qualitative analysis programmes do not only assist in the analysis in terms of speed in coding but also bring in a number of validity benefits. Cross-code analyses can be conducted; data display matrices could be easily developed; further, since all the coded segments by a specific code can be retrieved, this means that more detailed and thorough coding decision rules can also be created through careful reviews; and perhaps more importantly, the program instantly measures the volume of textual information when the coding takes space, and it, therefore, assists in creating a sound basis for a mixed CA study, an approach generally absent from CSR research but which is theoretically sound.

Appendix A (I). The substantive and symbolic strategies employed in the Savage *et al.* (2000) study

Substantive strategies

1. *Role performance*. This is perceived by Savage *et al.* as “the most obvious attempt at legitimation” (p. 48) and is where the organisation adapts its goals, methods or operation, and/or its output to conform to the performance expectations of the members of society on whom it depends for critical resources (Dowling & Pfeffer, 1975). These organisations would thus be expected to disclose more frequently quantitative and also at times negative CSD.
2. *Coercive isomorphism*. This is the basic tenet of institutional theory. Organisations employ substantive legitimation to become isomorphic with their cultural environment, by employing substantive strategies or by shifting from symbolic strategies to substantive over time.
3. *Altering socially institutionalised practices*. Organisations could attempt, through communication, to alter the societal definition of legitimacy, so that the amended definition reflects the organisation’s activities (Lindblom, 1994): the most difficult strategy to successfully implement (Savage *et al.*, 2000).

Symbolic strategies

4. *Espousing socially acceptable goals*. Organisations may do so while pursuing less acceptable ones. They may e.g. disclose ethical policies but fail to implement procedure to monitor compliance.
5. *Denial and Concealment*. Organisations may do so for activities that may undermine legitimacy (see e.g. Sutton and Calahan, 1987).
6. *Identification with symbols, values or institutions*. The organisation could attempt to become identified with symbols, values or institutions with a strong established base of social legitimacy (Dowling and Pfeffer, 1975; Lindblom, 1994).
7. *Offering accounts*. Organisations may offer explanations, including excuses and justifications or putting the blame to someone else (Paterson and

Woodward, 2006). This is still an attempt to shape perceptions of the organisation (O'Donovan, 2002).

8. *Offering apologies*. By apologising, organisations may show some expression of remorse for a negative event (Savage *et al.*, 2000).
9. *Ceremonial conformity*. Highly visible and salient practices that are consistent with social expectations may be adopted, while leaving the formal structure of the organisation intact. E.g. organisations may form a task force to study the environmental impacts of activities; this may provide the appearance of action without the substance (*ibid.*).
10. *Admission of guilt*. Organisations may acknowledge partial responsibility to create the impression and/or reality of honesty. Should be followed by increased negative CSD.
11. *Misrepresentation or open to misinterpretation*. The organisation may intentionally or unintentionally give a false impression or account or supply ambiguous information that could be misleading or open to misinterpretation (*ibid.*).
12. *Avoiding, trivialising or skirting around the issue*. The organisation may offer a partial explanation, trivialise or fail to directly address an issue. The information may not be clearly conveyed or may simply be implied (*ibid.*, O'Donovan, 2002)

Appendix A (II). The substantive and symbolic strategies employed in the BA study

Substantive strategies

1. *Role performance* [act as expected]: (Savage *et al.* strategy 1)
2. *Coercive isomorphism* [act as everybody does]: (strategy 2)
3. *Altering socially institutionalised practices* [Change what is expected]: (strategy 3)

Symbolic strategies [show acting as expected]

4. *Espousing goals and symbols* [change (improve) overall image]: (strategies 4, 6 and 9)

5. *Denial, concealment/avoidance and trivialisation of potential detrimental issues* [downgrade detrimental activities]: (strategies 5, 11 and 12)
6. *Offering accounts and apologies* [downgrade organisational role towards detrimental activities]: (strategies 7, 8 and 10)

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Table 1. The four major types of CA

		<i>Classical</i>	<i>Pragmatic</i>	<i>Mixed</i>	<i>Qualitative</i>
Criteria	Categories	Standard	Customised	Inductive	Inductive
	Content	Manifest	Manifest	Manifest and Latent	Latent
	Communication aspect	Syntactic and semantic	Syntactic and semantic	All	Pragmatic and semantic
	Orientation	Quantitative	Quantitative	Mixed	Qualitative

Table 2. The reviewed CSR papers approaches to coding units

Volumetric approaches	Characters	Davey, 1982; Tinker and Neimark, 1987
	Words	Brown and Deegan, 1998; Campbell, 2000; 2004; Campbell <i>et al.</i> , 2003; 2006; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Gao <i>et al.</i> , 2005; Neu <i>et al.</i> , 1998; Wilmshurst and Frost, 2000; Zéghal and Ahmed, 1990
	Lines	Bowman and Haire, 1975, 1976; Patten, 2002b; Trotman and Bradley, 1981; Wiseman, 1982
	Sentences	Buhr, 1998; Deegan <i>et al.</i> , 2000; 2002; Guthrie <i>et al.</i> , 2008; Hackston and Milne, 1996; Ingram and Frazier, 1980; Milne and Adler, 1999; Paterson and Woodward, 2006; Patten, 2002a; Tilling, 2003; Tilt, 2001; Tilt and Symes, 1999; Tsang, 1998; Walden and Schwartz, 1997; Williams, 1999
	Themes	Burritt and Welch, 1997
	Standardised proportion of pages	Adams, 2004; Adams <i>et al.</i> , 1995; 1998; Andrew <i>et al.</i> , 1989; Buhr, 1994; Gray <i>et al.</i> , 1995a,b; 2001; Guthrie, 1983; Guthrie and Parker, 1989; 1990; Hackston and Milne, 1996; Kuasirikun and Sherer, 2004; Murray <i>et al.</i> , 2006; Newson and Deegan, 2002; O'Dwyer, 1999; Savage <i>et al.</i> , 2000; Unerman, 2000
	Page size (and % of total CSD)	Bowman and Haire, 1975, 1976; Dierkes, 1979; Gibson and Guthrie, 1995; Hackston and Milne, 1996; Hasseldine <i>et al.</i> , 2005; Patten, 1992; Salama, 2003; Trotman, 1979; Trotman and Bradley, 1981
Index approaches	Binary coding	Abbott and Monsen, 1979; Adams and Frost, 2004; Adams and Harte, 1998; Al-Tuwaijri <i>et al.</i> , 2004; Andrew <i>et al.</i> , 1989; Barth <i>et al.</i> , 1997; Bebbington and Larrinaga, 2007; Belkaoui and Karpik, 1989; Benschop and Meihuizen, 2002; Beresford and Cowen, 1979; Bettman and Weitz, 1983; Buhr, 2001; Campbell <i>et al.</i> , 2006; Chan, 1979; Cormier and Gordon, 2001; Cowen <i>et al.</i> , 1987; Day and Woodward, 2004; De Villiers and Van Staden, 2006; Dierkes, 1979; Ernst and Ernst, 1978 (as cited in Deegan <i>et al.</i> , 2000, p. 118); Esrock and Leichty, 1998; Freedman and Stagliano, 2002; Guthrie <i>et al.</i> 2007; Harte and Owen, 1987; Ingram, 1978; Kelly, 1981; Mobus, 2005; Moneva and Llana, 2000; Niskala and Pretes, 1995; Nurhayati <i>et al.</i> , 2006; O'Dwyer and Owen, 2005; Patten, 2002b; Patten and Crampton, 2004; Richardson and Welker, 2001; Roberts, 1991; Simmons and Neu, 1996; Tilt, 1994; Turner <i>et al.</i> , 2006; Ullmann, 1979; Unerman and Bennet, 2004; Yamagami and Kokubu, 1991
	Weighted coding	Al-Tuwaijri <i>et al.</i> , 2004; Freedman and Jaggi, 1986; 1988; Freedman and Wasley, 1990; Hughes <i>et al.</i> , 2001; Kolk, 1999; Wiseman, 1982
Qualitative approaches	Adams, 2002; Bebbington and Gray, 2000; Jones, 2006; O'Donovan, 1999; 2002; O'Dwyer, 1999, 2002, 2003; Owen <i>et al.</i> 2000; Roslender and Fincham, 2004; Savage <i>et al.</i> , 2000; Unerman, 2003; Woodward <i>et al.</i> 2001	

Table 3. Recording units' consideration of an array of issues of concern





























		<i>Words</i>	<i>Sentences</i>	<i>% of pages</i>	<i>Page size data</i>
Issues of concern	Inclusion of images/graphs, Large typeface within report				
	Subjective measurements and internet				
	Report physical size and font size; margins and blank pages; pdf and microfiche forms				
	Detail in measurements				
	Ease, errors in measurements				
	Inclusion of tables				
	Grammar and repetition				

Table 4. The reviewed CSR papers employed categorical CA distinctions

Categorical distinctions	Positive vs. negative	Bettman and Weitz, 1983; Brown and Deegan, 1998; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Deegan <i>et al.</i> , 2000; 2002; Paterson and Woodward, 2006; Patten and Crampton, 2004
	Monetary vs. non monetary	Adams <i>et al.</i> , 1995; 1998; Al-Tuwaijri <i>et al.</i> , 2004; Andrew <i>et al.</i> , 1989; Beresford and Cowen, 1979; Burritt and Welch, 1997; Chan, 1979; Davey, 1982; Ernst and Ernst, 1978; Gibson and Guthrie, 1995; Gray <i>et al.</i> , 1995b; Guthrie, 1983; Guthrie and Parker, 1990; Hackston and Milne, 1996; Ingram, 1978; Kuasirikun and Sherer, 2004; Milne and Adler, 1999; Niskala and Pretes, 1995; Patten, 2002b; Trotman, 1979; Ingram and Frazier, 1980; Walden and Schwartz, 1997; Wiseman, 1982; Zéghal and Ahmed, 1990
	General vs. specific	De Villiers and Van Staden, 2006
	Substantive vs. symbolic	Day and Woodward, 2004; Savage <i>et al.</i> , 2000

Figure 1. The coding spreadsheet of the BA study

CA PROTOCOL	POS.	NEG.	OTHER	TOTAL	SUB1	SUB2	SUB3	SUM	SYMB1	SYMB2	SYMB3	SUM	OTHER	TOTAL	MAND	VOL	TOTAL
A. HEALTH AND SAFETY																	
1. H&S at workplace																	
2. H&S at marketplace																	
3. H&S of community																	
4. H&S - Other																	
B. MARKETPLACE																	
5. Consumers																	
6. Creditors																	
C. WORKPLACE																	
7. Employee/pension data																	
8. Equal opportunities																	
9. Human rights																	
10. Consultation with Emp.																	
11. Share ownership																	
D. COMMUNITY																	
12. Com. involvement																	
13. Charities																	
E. ENVIRONMENT																	
14. Environm. pollution																	
15. Energy																	
16. Aesthetics																	
17. Environment - Other																	
F. OTHER																	
18. Value add. statement																	
19. Other CSR																	
TOTAL																	

Figure 2. An illustration of the employment of a 6X8 grid on a BA (2002, p. 11) report page to estimate page size data

