Impression Management: Presentation formats in annual and stand-alone reports of UK FTSE100 companies 2000-2005

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Impression Management: Presentation formats in annual and stand-alone reports of UK FTSE100 companies 2000-2005

Abstract

This study examines 446 reports (223 annual reports and 223 stand-alone reports) of 46 FTSE100 companies for 2000–2005 inclusive. The selected companies are those that produced stand-alone reports in the form of a hardcopy for a minimum of three consecutive years ended 2005. This study analysed the total pages of the reports and the results show that the length of annual reports and stand-alone reports has increased over the years. The analyses of photographs, graphs and tables presented in those two types of reports show that tables and photographs are the most popular presentation format in the annual reports and stand-alone reports, respectively. Also, this study found that graphs and tables are the least popular presentation format in annual reports and stand-alone reports, respectively. There are more photographs of men, rather than photographs of women, presented in these two types of reports. Based on Signalling Theory, the companies, via photograph presentations, are argued to communicate a signal of power, rationality, emotional stability, aggressiveness, self-reliance, objectivity, and vigour, which attributes are commonly associated with men. Also, there are more, rather than less, portrait photographs presented in annual reports than in stand-alone reports to convince the readers of the truthful of information that the companies are presenting. Further, the companies are found to have used photograph presentations for impression management by way of presenting more images of humans at a workplace, rather than humans not at a workplace, in photographs presented in annual reports and stand-alone reports. Impression management also was detected on the presentation of graphs, tables and texts presented in stand-alone reports. Overall, size, activity, and listing status, but not performance, have been found to influence to a certain extent, on the number of photographs, graphs and tables presented in annual reports and stand-alone reports.

In loving memory of,

My late father, Haji Ibrahim bin Haji Muhamad
(whom I missed and cherished always)

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4Good	FTSE4Good
AR	Annual report
EBIT	Earning before interest and tax
ES	Environmentally sensitive
GDI	Graph Discrepancy Index
GRI	Global Reporting Initiatives
IP	Improved performance
K-S	Kolmogorov-Smirnov test
MCap	Market capitalisation
SAR	Stand-alone report
S-W	Shapiro-Wilk test
UK	United Kingdom
US	United States of America
X4Good	Non-FTSE4Good
XES	Environmentally non-sensitive
XIP	Non-improved performance

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Chapter 1: Introduction

1.0 Introduction

Impression management is an increasingly important area in the field of accounting. Impression management, in the context of the current study, refers to the presentation of information in set ways to portray a more favourable image of the company than is warranted (Beattie and Jones, 2000b). Related to this, companies were reported to have presented graphs and texts in annual reports in set ways to manage the readers' impression of the companies. When it concerns the presentation of a graph, companies are asserted to have presented graphs that were developed, not according to the proper design and construction of a graph, resulting in the presentation of biased information. Also, companies were reported to be underplaying the bad news and overplaying the good news, in the form of text to establish a favourable portrayal of the company (Clatworthy and Jones, 2003). While the presence of impression management in annual reports is well documented, studies on impression management in other corporate documents, and stand-alone reports[1] in particular, are found to be lacking.

The stand-alone reports, albeit voluntary, had over the years increased in their importance due to the increase in environmental awareness. Generally, companies use stand-alone reports to communicate information on economic, social and environmental related activities. This study aims to extend the knowledge of the extent of impression management in reports other than annual reports. The presentation of photographs, graphs, tables and texts mostly in stand-alone reports is analysed to ascertain the presence of information presentation bias. That said, there

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[1] Stand-alone reports in the context of this study include the environmental reports, the health and safety reports, the sustainability reports, the corporate social and responsibility reports, and other reports of the same nature.

is no study prior to this study that ranked photographs, graphs, and tables based on their respective number of incidences, *vis-à-vis* the favourite format, either in annual reports or stand-alone reports, let alone compare the position of respective presentation formats in the ranking of favourite presentation formats between the two types of reports. This knowledge is important in order to have a better understanding of the different structures of information presentation between annual reports and stand-alone reports. In this vein, the result of this study has enriched the literature on diverse aspects of corporate communications.

Overall, this study is essential as it enhances the understanding on various issues related to corporate reporting behaviour. That said, this study is the first to rank the favourite information presentation formats of photographs, graphs and tables both in the annual reports and the stand-alone reports. The influence of company characteristics namely size, performance, listing status, and activity on the number of photographs, graphs and tables presented in these two different reports is also explored. Also, this study is the first to make a comparison of the various aspects of photograph presentations between annual reports and stand-alone reports that includes *inter alia*, size, image details [2] and photographic themes. Further, this study explored the potential use of tables in stand-alone reports to portray a more favourable image of the company than is warranted, thus contributing towards enriching the literature on impression management.

The remainder of this chapter is arranged as follows. The following section, Section 1.1, presents the overview of the study. The next section, Section 1.2, discusses the background of the study. The subsequent section, Section 1.3, presents research problems. Section 1.4, which states the research questions, is presented after that. Then, research objectives are presented in Section 1.5. The following section,

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[2] For example, is the photograph featuring a single man or a group of men?

Section 1.6, discusses the significance and contributions of this study. The next section, Section 1.7 presents a summary of findings. The last section, Section 1.8, describes the structure of the thesis and ends this chapter.

1.1 The overview of the study

Companies disclose information by presenting it using various presentation formats that include *inter alia*, photographs, graphs, tables, texts, charts, symbols and cartoon caricatures (Warren, 2005). These presentation formats are used primarily to improve communication efficiency, thus helping to enhance the quality of decision-making (So and Smith, 2003). Razae and Porter (1993) postulated that the reason users do not read the corporate documents thoroughly, in particular the annual report, is because the contents were too complex and contained too much detail. Among others, readers claimed to find it difficult to understand clearly the information presented in the reports (Gray et al., 1993; Azzone et al., 1997)[3]. Related to this, Wilson and Stanton (1996) suggested that graphical presentations be used to improve the report's readability and the reader's understanding. This is because the information can be presented in a more precise and simplified manner. Also, the use of graphical presentations is argued to be able to guide the interpretation towards particular outcomes due to the enhancement in the communication process (Wilson and Stanton, 1996; Stanton et al., 2004).

Companies normally employed a mixture of various types of presentation formats for information presentation. As Davis (1989) argued, there is no single presentation format that is best suited to all situations. Thus, the use of various presentation formats is able to increase the effectiveness in the information dissemination for they complement each other in enhancing the readability and thus the reader's

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[3] This readability issue had been highlighted in numerous studies (see for example, Jones and Shoemaker, 1994; Abharamson and Amir, 1994; and Clatworthy and Jones, 2001).

comprehension. As a result, the clarity of the information is enhanced. Also, a combination of the unique advantages of an individual presentation format contributes towards influencing the readers, one way or the other (Feldman and March, 1981). An initial analysis of the types of presentation formats that have been presented in the annual reports and stand-alone reports of the companies selected for the current study appears to be consistent with this convention, as 80% of the reports were found to have employed graphs, tables and photographs.

The task of selecting a suitable and appropriate presentation format to be used for presenting the information involves a critical process. This is because the framing of decisions according to Tversky and Kahneman (1986) depends on the language of presentation, the context of choice, and also the nature of the display. Bettman and Kakkar (1977) argued that different presentation formats affect differently the way in which the information is acquired. Graphs, for example, lead to a shorter decision times (Hwang, 1995), and stay longer than numbers in a human memory (Leivian, 1980). Tables are useful if the task is to present numerical information related to units of measurement or time periods. Texts are suitable for providing explanations (So and Smith, 2003) while photographs, which combine all faculties of human sensory capabilities with a whole host of cultural, social and psychological knowledge, hence assist in any decision-making process (Warren, 2005). All of this means that graphs, tables, texts, and photographs differ in terms of their usability and influential power on decision-making processes (Tractinsky and Meyer, 1999; Bierstaker and Brody, 2001).

Photographs are communication tools with a full impact, are arresting, and have the potential to catch the attention of the reader in a way that is far more immediate, perhaps, than words (Warren, 2005). Photographs are also argued to be able to transform the otherwise dull and uninteresting reading material into more engaging,

colourful, and visually attractive documents (Wilmshurst and Frost, 2000; Beattie et al., 2008). Due to this, the documents become refreshing and are able to attract the attention of their readers. Gamson et al. (1992) argued that photographs in corporate reports possess power, and reinforce the point of view of the reporter or agency that constructs them. In this light, Benschop and Meihuizen (2002) contended that companies employed photographs in annual reports to highlight the specific image that they want to portray, normally an image that would be appealing to readers. This is because photographs are asserted to possess the ability to manage expectations effectively while communicating a corporate image (Houston et al., 1987; Graves et al., 1996; McKinstry, 1996). Buchanan (2001) argued that photographs can be valuable forms and sources of data for they capture the detail of social reality, offering holistic representations of lifestyles and conditions. A blend of all these features, according to him, may create a universal image of the company. Further, he contended that photographs also are used to validate the data presented in the form of text. In the same light, Graves et al. (1996) postulated that the inclusion of photographs of the board members and officers, in annual reports, helps to persuade readers of the truthful claims in the accounts, and to perpetuate the values that reside in them. In addition, photographs in the form of a portrait are argued to be associated with the truthfulness of information (Graves et al., 1996; Buchanan, 2001) for they are likely to connote intimacy (Schroeder and Borgerson, 2005). All this means that photographs, in their own right, are able to enhance the credibility and trustworthiness of information presented in company reports.

Graphs are argued to be able to grab the attention of the readers (Houston et al., 1987). This is true, especially when a coloured graph is presented. Graphs also are better remembered compared to text (Shephard, 1967). Graphs allow more information to be processed, and are therefore suitable when the task involves detecting trends, comparing patterns, and interpolating values (Lurie and Mason,

2007; Beattie et al., 2008). Graphs make it easier for readers to see patterns, show

detail information on specific alternatives, and provide a context for evaluating focal

information (Lurie and Mason, 2007). Graphs also are able to convey facts and ideas

clearly thus enhancing the communication process in a more precise and effective

manner (Wilson and Stanton, 1996). Overall, graphs help to improve decision quality

because the ability of a decision-maker to evaluate information on multiple attributes

is enhanced (Lurie and Mason, 2007).

Tables are helpful in understanding the data (Stephan and Hornby, 1995). Also,

tables are capable of enhancing the evaluation ability of a decision-maker (Vessey,

1991). Stephan and Hornby (1995) postulated that in order to maximise its benefit, a

table has to be as simple, clear and unambiguous as possible. The unique feature of

a table is that it can be expanded in either direction, vertically or horizontally, or in

both directions simultaneously without compromising on its simplicity. This ability is

an advantage, especially when the decision-making process involves multi-

dimensional analyses, be it cross-sectional, or longitudinal, or both. Among the

situations where a table becomes an appropriate presentation format includes, *inter*

alia, presenting the original figures in an orderly manner, showing specific patterns in

the original figures, summarising figures, and providing important information for

problem-solving (Stephan and Hornby, 1995).

Texts are regarded as a significant form of information presentation that occupies

most of the allocated spaces in both the annual reports and the stand-alone reports.

Texts, according to Beattie et al. (2008), are an important device for scene-setting.

Arthur Anderson (2000), in their survey of 100 listed UK companies' annual reports,

had reported an increase in terms of space occupied by texts, from 45% in 1996, to

57% in 2000. Indeed, texts are an appropriate presentation format in the case where

detailed explanations on issues of concern are required. In addition, texts, if

presented in an appropriate style, using appropriate words for an appropriate situation, are able to impress the readers (Beattie et al., 2008).

The employment of presentation formats, central to this study – photographs, graphs, and tables[4] – is at the discretion of the reporters. That said, Beattie and Jones (2000b) contested that management are responsible for ensuring that the information being presented is fair, neutral, and unbiased. They argued that the biased presentation of information implies that the management is deliberately presenting information so as to portray the company in a more favourable manner than is warranted[5]. They referred to this type of information presentation activity as presentation management that, according to them, is part of impression management. Related to this, Leary and Kowalski (1990) contended that presentation management is a situation in which one party tries to manage the other party's general perceptions of them. In an attempt to establish a favourable image, companies are asserted to present selected information with positive values, while information that reflects negative values is excluded (Gardner and Martinko, 1988). As Feldman and March (1981, p. 176) argued,

> "*Most information that is generated and processed in an organisation is subject to misrepresentation. Information is gathered and communicated in a context of conflict of interest and with consciousness of potential decision consequences.*"

Companies are contended to be involved in presentation management when they deliberately select the information and present it in set ways to impress the readers. In the case of graphs, the managed presentation of a graph, according to Fulkerson et al. (1999), is actually a presentation of biased and untruthful information. Schmid (1983) contended that the use of graphical methods is able to enhance the

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[4] These presentation formats are considered as central because the comparison is made in terms of their incidents as between annual reports and stand-alone reports. Texts only come into the picture when the investigation involved the issue of impression management, which is limited only to stand-alone reports.

[5] See Kasznik and Lev (1995) and Stergios and Weetman (2004) for more examples.

communication process effectively only if it is designed according to the principles of graphical design and construction. Where it concerns the information presentation in the form of text, companies are asserted to present the more favourable news rather than unfavourable news (Clatworthy and Jones, 2006). Similarly, companies may select the length of the comparison period of a table and also the units of comparison that are more favourable rather than unfavourable. For example, companies may choose to present a table of the performance of a 2-year period, which is more favourable, rather than the performance of a 'normalised' 5-year period, which is less favourable. All these point to a salient fact that companies may use the discretionary aspects of information presentation to their advantage by overplaying the information about their good performance, and underplaying the information about their bad performance (Clatworthy and Jones, 2003). Beattie and Jones (2000a) referred to this exercise as selectivity, which, according to them, is part of impression management. Revsine (1991) contended that selectivity leads toward presentation bias due to its selective representation. Clatworthy and Jones (2003) argued that companies at their best would discuss both good and bad news equally, while at their worst, would focus only on good news. As for photographs, Wilmshurst and Frost (2000) argued that companies, among other things, use them as a means to impress users of their responsible approach, particularly on environmental issues.

It was reported in previous studies that companies exercised impression management to create, enhance, and retain the good reputation of the company (Murray and White, 2005). This is because companies with a good reputation, especially an environmental reputation, gain a better chance to improve on their overall business performance (Porter, 1991; Orlitzky et al., 2003). Related to this, Rosewicz (1990) argued that individuals are willing to pay more for a product that helps to save the planet. Thus companies, after realising the importance as well as the benefit of having a good environmental reputation, have an incentive to present

information in set ways to portray a more favourable image of the companies than is warranted. The presence of impression management in annual reports is well documented. As companies also produce stand-alone reports to communicate about their environmental related activities, there is a potential for information presentation bias in these reports, hence this study.

1.2 Background of the study

Companies use various communication vehicles to communicate with their shareholders and other stakeholders about their performance, and other related activities. These communication vehicles include, *inter alia*, annual reports, stand-alone reports, press releases, corporate websites, and advertisements. Two of these communication vehicles, which are central to the current study, are annual reports and stand-alone reports. It is a mandatory for companies to produce the annual reports, whereas the stand-alone reports are produced at the discretion of the companies. Related to this, a company is subject to being penalised by the respective enforcement agency if it fails to produce an annual report. Also, there is a requirement for annual reports to be audited prior to release. By contrast, the stand-alone reports, due to their voluntary nature, require no auditing whatsoever. These two types of reports, albeit different in their nature, are important to both investors and researchers. When it concerns the investors, these reports assist them in making informed investment decisions. As for the researchers, these reports provide crucial information on issues related to corporate reporting behaviour and/or practices.

An annual report is regarded as the most important and valuable reporting instrument (Hines, 1982; Vergoossen, 1993; Beattie and Jones, 1998). The reason for this is that an annual report is the main reporting document produced by a company (Firth, 1979; Pava and Epstein, 1993; Samuels, 1993; Botosan, 1997). Due to that, the majority of researchers use annual reports as their primary and valued source of

information (Hines, 1982; Vergoossen, 1993; Neu et al., 1998). Also, researchers use annual reports to evaluate a company's financial performance, and also to review the potential for growth in the company's value (Pava and Epstein, 1993; Pijper, 1993). Further, an annual report is the most widely distributed of all public documents produced by a company, hence is widely available, which means that access to this report is easy (Campbell, 2000).

Recent years have seen an increase in the importance of environmental information, in accordance with the increase in environmental awareness. Environmental disclosure, albeit voluntary, have resulted in the extended use of annual reports as a medium of communication for environmental information (Savage, 1998). Consequently, annual reports have become one of the most common sources for discovering environmental information (Nieminen and Niskanen, 2001; Tilt, 2008). Early researchers have measured the increase in the disclosure of social and environmental information in annual reports (Trotman and Bradley, 1981; Gray et al., 1995a). Companies are reported to have disclosed environmental information partly because they are aware that environmental behaviour is an issue of public concern (Zadek et al., 1997; Wilmshurst and Frost, 2000). Azzone et al. (1997) contended that companies demonstrated their commitment to the environment by disclosing their environmental information. In addition, environmental disclosure implies that companies are fulfilling their accountability obligations (Benston, 1982; Holland and Boon-Foo, 2003; Brammer and Pavelin, 2006). Related to this, the public expects companies to report on their environmental activities just as companies report on dividends (Deegan, 2002). In the same light, Epstein (1991) contended that shareholders had ranked environmental issues higher than dividend payouts. In the UK for example, the majority of the British public considers a clean and safe environment to be a basic human right (Manley, 1992).

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Jose and Lee (2007) argued that the commitment to presenting environmental information had given companies a competitive advantage. They further argued that companies with an improved environmental performance are rewarded, for example, in the form of a premium in their shares. Ghobadian *et al.* (1995) contended that many UK companies, having realised these benefits, are seeking to become environmental leaders. Related to this, previous studies had reported that investors react immediately to the release of new information about a company's environmental performance (see Muoghalu *et al.*, 1990; Hamilton, 1995; Klassen and McLaughlin, 1996; Konar and Cohen, 1997). Also, investors are reported to react accordingly towards any changes in the company's environmental behaviour (Jaggi and Freedman, 1992; Pava and Krausz, 1996; Edwards, 1998; and Lorraine *et al.*, 2004), particularly those related to global warming (Brown and Flavin, 1999). Environmental disclosure also leads to positive public relations (Idowu and Papasolomou, 2007), which means that reporting companies will be perceived as caring organisations (Jacques, 2006). Further, environmental disclosure helps to establish a more rounded picture of the reporting company (Idowu and Papasolomou, 2007), hence further assisting the investment decision-making process.

Zeghal and Ahmed (1990) argued that annual reports are not the only communication medium for environmental information. This is because companies over the years have changed the way they report their environmental commitment by producing separate environmental reports. Subsequently, these stand-alone reports have become the main vehicle for companies to communicate environmental information (Herremans *et al.*, 1999; KPMG, 2005). Since the beginning of the 1990s, the number of companies producing stand-alone reports has increased considerably (Cerin, 2002; Thomson and Bebbington, 2005). In the 1993 KPMG survey, only 15% of companies were reported to have published stand-alone environmental reports.

However in the 1996 KPMG survey, the percentage of companies that produce stand-alone environmental reports had increased to 17%. The percentage of companies producing stand-alone reports had risen to 35% in the 1999 KPMG survey, and subsequently to 45% in the 2002 sustainability survey (KPMG, 1999, 2002). In the 2005 survey, 71% of FTSE 100 companies were reported to have produced stand-alone environmental reports (KPMG, 2005). This represents an increase of 26% in the percentage as compared to that for the year 2000 (Idowu, 2005). While the percentage of companies producing stand-alone reports appears to be on an increasing trend, other companies still devote a section in their annual reports to report on their environmental related activities (Idowu and Towler, 2004).

Companies are aware that a good reputation is critical for their current as well as future business survival. As such, companies have an incentive to present information that could enhance their favourable images (Godfrey *et al.*, 2003). In this vein, companies are argued to have used their corporate reports – annual reports and stand-alone reports – as public relations tools (Beattie and Jones, 1993; Holliday, 1994). Where appropriate, companies may provide additional, but voluntary information[6] in an attempt to tell their own side of the story on issues of public concern (Cerin, 2002). In so doing, companies may influence readers' impressions by manipulating the content as well as managing the presentation of information (Merkl-Davis and Brennan, 2007). Related to this, companies are deliberately emphasising good news in order to strengthen their corporate reputation (Merkl-Davis and Brennan, 2007; Idowu and Papasolomou, 2007), resulting in the presentation of distorted information (Merkl-Davis and Brennan, 2007). In the event where the distorted information is used to make a decision, a biased decision may result (Lurie and Mason, 2007; Beattie et al., 2008).

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[6] Meek et al. (1995) define 'voluntary' as discretionary reporting, being in excess of mandatory requirements.

The nature of the report – mandatory or voluntary – does not determine whether it is free of presentational bias. Annual reports for instance, albeit mandatory in nature, have been reported to contain information presentation bias in the form of graphs (Benbasat and Dexter, 1986; Steinbart, 1989; Beattie and Jones, 1992, 1999; Beattie et al., 2008) and texts (Smith and Taffler, 1992; Tauringana and Chong, 2004; Balata and Breton, 2005; Clatworthy and Jones, 2006). While the presence of impression management in annual reports is well documented, research on impression management in stand-alone reports is in its infancy. Companies use impression management in stand-alone reports arguably to enhance the companies' reputation as well as to handle the information asymmetry gap that could otherwise affect both reputation and stock price (Elsbach, 1994; Elsbach and Kramer, 1996; Hooghiemstra, 2000).

In investigating the potential existence of impression management in stand-alone reports of top companies in the UK, this study also examines and ranks the favourite presentation formats among photographs, graphs and tables presented in annual reports and stand-alone reports. These two different reports, albeit produced by the same companies, may possess different numbers of photographs, graphs and tables. The positions in the ranking of favourite presentation formats of photographs, graphs and tables between the reports also may be different from one another. Also since the companies are involved in different economic sectors, there is a potential influence of the various company characteristics on the use of photographs, graphs and tables for information presentations. Prior to this study, little interest has been shown by any researchers to compare the information presentation of photographs, graphs and tables as between annual reports and stand-alone reports. The presence of impression management in stand-alone reports is also relatively unstudied, which means that a gap exists in the accounting research.

1.3 Research problems

Photographs, graphs and tables have the ability to enhance the efficiency of communication. The use of these presentation formats enables readers of corporate reports to overcome or at least reduce understandability problems (Gray et al., 1993; Azzone et al., 1997). Apart from that, photographs, graphs and tables are employed because of their individually unique advantages. Photographs, for instance, are able to transform the corporate report from dull reading material into a more visually attractive document (Wilmshurst and Frost, 2000; Beattie et al., 2008). Graphs, according to Beattie et al. (2008), are useful for highlighting trends, while coloured graphs are more likely to attract attention and stimulate interest. Similarly, data presented in the form of a table is more presentable and easily understood.

Companies are asserted to have used their discretion in information presentation by managing the presentational aspects to portray a more favourable image of the companies than is warranted (see Merkl-Davis and Brennan, 2007 for an extensive discussion and related studies on impression management). This exercise results in the presentation of distorted information, thus disrupting the truthfulness of the information (Azzone et al., 1996a; Maltby, 1997). As Schmid (1983) contended, the objective of using pictorial presentation formats to enhance the communication process effectively would not be met if their design and construction did not comply with the principles of graphical design and construction. In the same light, Fulkerson et al. (1999) postulated that if the graphics were inferior, then the presentation would further confuse the readers.

Companies exercise their discretion in information presentation by selecting the type of presentation format that suits their purpose. It is therefore argued that knowledge of the favourite presentation formats in annual reports, as well as in stand-alone reports, would enable one to grasp the intrinsic role of the reports. For instance, if the

role of the report were to assist its users in making an investment decision, then more tables would probably be used to disclose the fundamental information. Likewise, if the role of the report were to enhance the company's public relations, then more photographs would probably be employed. As the saying goes, a picture is worth a thousand words. This study therefore attempts to investigate and rank the presentation formats of photographs, graphs and tables in annual reports and stand-alone reports of UK top companies based on their number of incidents. Further, the ranking of presentation formats in annual reports and stand-alone reports is compared in an attempt to understand the intrinsic role that each of these reports is promoting. In addition, photographs in annual reports and stand-alone reports, and graphs, tables and texts in stand-alone reports are examined to identify the possible use of these presentation formats for impression management purposes.

1.4 Research questions

This study responded to a call for a more research into the forms of information presentation in corporate reporting documents, then subsequently providing answers to the following questions:

[1]   Do the length of annual reports and stand-alone reports increases over time?

[2]   What are the positions of photographs, graphs, and tables in the ranking of favourite presentation formats in annual reports and stand-alone reports?

[3]   Do photographs in annual reports and stand-alone reports differ in their attributes?

[4]   Do company characteristics of size, listing status, activity, and performance influence the number of photographs, graphs and tables presented in stand-alone reports and annual reports?

[5]   Are photographs in annual reports and stand-alone reports, and graphs, tables and text in stand-alone reports being used for impression management?

1.5 Research objectives

This study aims to achieve the following five objectives, namely:

[1]   To document the changes in the length of annual reports and stand-alone reports over time;

[2]   To document the positions of photographs, graphs, and tables in the ranking of the favourite presentation formats in annual reports and stand-alone reports;

[3]   To compare the attributes of photographs in annual reports and that for stand-alone reports, both on a yearly basis as well as over time;

[4]   To examine and document the influence of a company's characteristics of size, listing status, activity, and performance on the number of photographs, graphs, and tables in stand-alone reports and annual reports; and

[5]   To examine the probable use of photographs in annual reports and stand-alone reports, and graphs, tables and text in stand-alone reports for impression management.

1.6 Significance and contributions of the study

Companies produce annual reports and stand-alone reports as vehicles to communicate with internal and external parties that include *inter alia*, employees, customers, shareholders, lenders and the general public. The internal as well as external parties use the information presented in these reports to assist them in making sound and informed decisions. In order to enhance the communication process effectively, companies employ various presentation formats that include *inter alia*, photographs, graphs, tables and texts. Prior to this study, there has been no documented work that ranked photographs, graphs, and tables as presented in annual reports and stand-alone reports, let alone compare the positions of these presentation formats in the ranking of favourite presentation formats between these two different types of reports.

When it concerns graphs, companies have been reported to present distorted graphs in an attempt to portray a more favourable image than is warranted (Beattie and Jones, 2000a). That said, prior studies on impression management in graphs were focusing mostly on graphs presented in annual reports. Although the annual reports are required to be audited prior to their release, the information presentation formats *per se* are not included in the auditing process. Graphs are also presented in stand-alone reports and that means there is a possibility that the presentation of graphs are managed to give a more favourable portrayal of the company than is warranted. Further, there is a possibility that other presentation formats in stand-alone reports that include photographs, tables, and texts, are manipulated to a certain extent for impression management. The knowledge of the possible exercise of impression management in stand-alone reports is viewed as crucial, considering that the reports are increasing in their importance, as reflected by the increase in the number of companies that produced them (Deegan and Gordon, 1996; KPMG, 1999, 2002; Kolk, 2003; Peck and Sinding, 2003). There is however, a lack of studies on

impression management in stand-alone reports, hence a gap in related literature. This study attempts to fill the gaps related to information presentation and impression management in annual reports and stand-alone reports of FTSE100 companies in the UK over time. By so doing, this study responds to a call for a more longitudinal study on impression management in a voluntary reporting environment (see Merkl-Davies and Brennan, 2007).

This study is argued to have enriched both the academic and the non-academic arenas. When it concerns the academic arena, this study extends the knowledge of the extent and nature of various presentation formats in annual reports and stand-alone reports. The investigation on photograph presentation in this study contributes towards enriching the literature, which is contended to be relatively unstudied (see Warren, 2005). Further, it is believed that, for the first time, the presence of impression management involving photographs in annual reports and stand-alone reports, and graphs, tables and texts in stand-alone reports is critically examined. As for the enrichment within the non-academic arena, this concerns the users of the reports and the relevant policy makers. When it concerns the former, the new knowledge in systematic differences in impression management strategies would have to be factored into decision-making models, as they would potentially affect investment decisions. As for the latter, the presence of systematic differences in impression management would perhaps need to be addressed as they undermine the aspects of information trustworthiness.

1.7 Summary of findings

This study examines the annual reports and stand-alone reports of leading companies in the UK by focusing on the information presentation formats of photographs, graphs, tables, and texts to determine,

- the changes in the length of annual reports and stand-alone reports over time

- the favourite presentation formats in annual reports and stand-alone reports

- the differences in the attributes of photograph presentations between these two different types of reports

- the influence of company characteristics on the number of photographs, graphs, and tables presented in annual reports and stand-alone reports

- the presence of impression management exercise in annual reports and stand-alone reports

The length of annual reports and stand-alone reports of selected companies are found to have increased over the years. This study also found that photographs, graphs, and tables are ranked differently in terms of their incidence in annual reports and stand-alone reports. Tables and photographs are ranked first and second, respectively, in the ranking of the favourite presentation formats employed in annual reports. Tables in annual reports are employed generally to present financial information that is fundamental in making investment decisions. This indirectly emphasises the function of the annual reports, namely, to assist the readers in making informed investment decisions. Meanwhile, photographs in annual reports are found to portray more humans at a workplace, namely, to highlight an image that is appealing to the readers (Benschop and Meihuizen, 2002). Indeed, there are more photographs of humans at a workplace, rather than, photographs of humans not at a workplace, presented in annual reports of selected companies. This suggests that companies use photographs as a tool to portray a more favourable image of the companies than is warranted.

As opposed to annual reports, photographs and tables in stand-alone reports are ranked first and third, respectively, in the ranking of the favourite presentation formats employed. Overall, the presentation of more images and less numerical

information suggested that companies use stand-alone reports primarily to enhance their corporate reputation and public relations, and thus consistent with the assertions reported in previous studies (see Beattie and Jones, 1993; Holiday, 1994). Related to this, there are also more photographs of humans at a workplace, rather than, humans not at a workplace, presented in stand-alone reports of the selected companies. Further, the number of photographs in stand-alone reports was found to be influenced by company size. Indirectly, this finding suggests that larger companies, rather than, smaller companies, were concerned more for their reputation. The presentation of photographs depicting humans at a workplace, and nature, in the stand-alone reports highlighted the use of photographs as a tool in managing the perceptions effectively while communicating a corporate image (Graves et al., 1996; McKinstry, 1996; Houston et al., 1987). Similarly, the presentation of more photographs of men rather than photographs of women reflects favourably on the readers' perceptions of the management's credentials in managing the company. This is because men in photographs represent power, rationality, emotional stability, aggressiveness, self-reliance, objectivity, and vigour (Kuiper, 1988; Kolmar and Bartkowski, 2005). Further, the presentation of graphs, tables, and texts in stand-alone reports were found to have been managed, suggesting management's attempts to further enhance the company's as well as their own, reputations. Graphs, tables, and texts in stand-alone reports were found to present significantly more good news than bad news, while the presentation of graphs was found to be distorted.

1.8 Structure of the thesis

Figure 1.1 presents the structure of this thesis that consists of eight chapters. The following chapter, Chapter 2 is the philosophical aspects of the research and the theoretical framework. The chapter begins with a discussion on the different philosophical conventions in conducting research. The chapter discusses the three

different paradigms in conducting research, namely, constructivist, positivist, and critical realist. As the current study embraces a positivist approach, the chapter discusses the five different theories related to the information disclosure, namely, Agency Theory, Stakeholder Theory, Legitimacy Theory, Signalling Theory, and Impression Management. Subsequently, the reasons for the adoption of only two theories – Signalling Theory and Impression Management – are discussed.

Chapter 3 is the literature review and development of the hypotheses. This chapter presents, and discusses, previous studies related to issues of concern for the current study. Those related studies are arranged into four different categories. The first category involved studies on the length of corporate reports. The second category involved studies on presentation formats in corporate reporting documents. The third category involved studies on the influence of company characteristics on presentation formats employed. The last category involved studies on impression management in corporate reports. Generally, these previous studies had laid a foundation for the areas to be researched into by the current study. It was these previous studies, as well as the theories adopted, that guided in the development of hypotheses for this study.

Chapter 4 discusses the methodology, which explains the approach undertaken in this study. Specifically, this chapter addresses issues relating to the selection of the companies in the sample, the collection of annual reports and stand-alone reports, collecting and recording the data, and the statistical analysis employed to analyse the data in this study. This chapter also presented the descriptive statistics of companies selected for the study mainly from the perspective of company size and business activities. Also presented is the information related to the changes in the length of stand-alone reports and annual reports.

Chapters 5-7 present the research findings. Chapter 5 presents the results of the analysis of the presentation formats of photographs, graphs, and tables. Specifically, the presentation of results in this chapter focuses on the number of incidents involving photographs, graphs, and tables presented in stand-alone reports and annual reports. This chapter also compares the attributes of photograph presentation, both on the individual years as well as over time between those two different reports.

Chapter 6 presents results from the analyses of the influence of company characteristics on the number of presentation formats in annual reports and stand-alone reports. Also discussed are the four company characteristics, namely size, listing status, activity, and performance that are used to separate the selected companies. Two groups for each characteristic are established, and companies in the sample are assigned accordingly to their appropriate groups. In addition, the photographs, graphs and tables presented in annual reports and stand-alone reports for each category are analysed and the findings are presented accordingly.

Chapter 7 presents the results of analyses on impression management involving photographs in annual reports and stand-alone reports, and graphs, tables and texts in stand-alone reports. When it concerns photographs, the number of incidents involving favourable versus the unfavourable images is analysed. When it concerns graphs, tables, and texts, the results from the analyses on impression management are discussed from the perspective of presentation of more good news than bad news. The results of the subsequent analysis on graphs, the graph discrepancy index (GDI), which measures distortion in graph presentation, as well as the use of special effects to enhance the presentation of a graph, is also presented.

Chapter 8 is the final chapter of this thesis. This chapter summarises the findings of the current study, presents the limitations of the current study, discusses contributions of the study, suggests areas for future research, and then concludes this thesis. The discussion on the findings is presented in such a way as to mirror the research questions that the current study is investigating. They include the lengths of annual reports and stand-alone reports; the rankings of presentation formats of photographs, graphs and tables in annual reports and stand-alone reports; the differences between the attributes of photographs as presented in annual reports and stand-alone reports; the influence of company characteristics of size, activity, performance, and listing status on the number of photographs, graphs and tables presented in those reports; and the use of photographs in annual reports and stand-alone reports, and graphs, tables, and texts used in stand-alone reports for impression management. When it concerns the contributions of this study, the discussion is presented from the perspectives of the academic arena as well as from the perspective of non-academic arena. A concluding remark that was presented subsequent to the suggestions for future research marks the end of this thesis.

Figure 1.1. **Structure of the thesis**

	Chapter 1
Theoretical studies	Chapter 1 Introduction
	Chapter 2 Philosophical aspects of research & theoretical framework
	Chapter 3 Literature review & hypotheses development
	Chapter 4 Research methodology
Empirical studies	Chapter 5 Results – The length of reports & the rankings of presentation formats
	Chapter 6 Results – The influence of company characteristics on presentation formats
	Chapter 7 Results - Impression management
	Chapter 8 Discussion & conclusion

(Source: this thesis)

Chapter 2 – Philosophical aspects of research & theoretical framework

2.0 Introduction

The philosophical aspects of research are important for they determine the way in which any research is undertaken. Different philosophical beliefs entail different research paradigms. Research paradigms influence the research process through the assumptions underpinning the respective research paradigm. In the case of a positivist paradigm, for example, empirical regularities imply causal laws that are then used to explain social phenomena. By contrast, a constructivist paradigm assumes that explanation comprises causal laws inferred from the actors' subjective perceptions of their social world, and that the cycle of enquiry is inductive, and hence requires some sort of descriptive explanation (Wass and Wells, 1994). A constructivist paradigm provides more space for the researcher, leading towards a significant degree of involvement. Once a research paradigm is determined, the ontological assumptions, the epistemological assumptions, and the methodological assumptions for the respective paradigm are established. These assumptions guide the manner in which a researcher should behave while conducting the research. This study adopts a positivist paradigm, which holds that social discoveries are made in a logical manner through empirical testing, using inductive and deductive hypotheses derived from a body of scientific theory. These theories are used to explain the social phenomena concerning issues under investigation.

The remainder of this chapter is structured as follows. The following section, Section 2.1, explains research in social sciences. The next section, Section 2.2, discusses the research paradigms. Implications of the philosophical aspects for the research approach of the current study are presented after that, in Section 2.3. Then, the

related theories on information disclosure are presented in Section 2.4. The following

section, Section 2.5, discusses the theoretical framework adopted in the current

study. A summary in Section 2.6 ends this chapter.

2.1 Research in social sciences

Research in social science is conducted based upon assumptions. These

assumptions are important, for they determine the manner in which social scientists

investigate the social world. Burrell and Morgan (1994) contended that social

scientists formulate assumptions as to how they view the nature of the social world.

Indeed, different viewpoints require different explanations. Kuhn (1996) refers to

these viewpoints as paradigms[7], while Rocco et al. (2003) refer to them as world-

views[8]. The word 'paradigm', rather than 'world-view', is deemed to be more

appropriate in the context of this study, and hence will be used to refer to social

scientists' viewpoints.

A paradigm, from the Kuhn (1996) perspective, is a set of linked assumptions about

the physical world/universe, but not a society, which is shared by a community of

scientists investigating that world. Meanwhile, Patton (1975, *cf.* Guba, 1990, p. 80)

defines a paradigm as:

> "A world view, a general perspective, a way of breaking down the
> complexity of the real world ... paradigms are deeply embedded in the
> socialisation of adherents and practitioners, telling them what is
> important, what is legitimate, what is reasonable. Paradigms are
> normative; they tell the practitioner what to do without the necessity of
> long existential or epistemological considerations".

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[7] The OED defines 'paradigm' as 'a mode of viewing the world which underlies the theories and methodology of science in a particular period of history'. N.B. The 'science' referred to here is physical science, where 'physics' is usually taken as the paradigm case of a science in the modern world. From this it will be seen that the social 'sciences' are a very pale imitation of a science.

[8] The OED defines 'world-view' as 'a set of fundamental beliefs, attitudes, values, etc., determining or constituting a comprehensive outlook on life, the universe, etc.' In other words, any particular world-view is subjective, and is usually explained in terms of the particular individual's socialisation in his/her particular society.

There are a variety of paradigms in the social sciences. They are different, one from the other, and none of these paradigms is true or false. Each of these paradigms offers a different way of looking at social life, so much so that a unique assumption about the nature of social reality is formulated. Paradigms provide a 'basic set of beliefs or assumptions that guide' a researcher's inquiry (Cresswell, 1998, p.74). An argument was initially raised on the issue of accommodation between the paradigms (see Lincoln, 1990). However, this issue has been resolved in favour of a fusing of paradigms (see Reichhardt and Rallis, 1994; Greene and Caracelli, 1997; Smith, 1994, 1997), which means that researchers acknowledged the possibility of combining paradigms (Guba and Lincoln, 1994).

A paradigm influences the research process by specifying the manner in which a researcher should behave while conducting research. This is clarified through a systematic set of interrelated statements about the nature of reality[9] (ontological assumptions), the role of a researcher (epistemological assumptions), and the research process itself (methodological assumptions) (Healy and Perry, 2000; Hay, 2002; Rocco et al., 2003). Generally, ontological assumptions are concerned with the nature of reality (Rocco et al., 2003), what is out there to know (Grix, 2002), or what we believe constitutes social reality (Blaikie, 2000). Examples of ontological positions are those contained within the perspectives of 'objectivism' and 'constructivism'. 'Objectivism' is an ontological position that asserts that social phenomena and their meanings have an existence that is independent of social actors. Meanwhile, 'constructivism' is an alternative ontological position asserting that social phenomena, and their meanings, are continually being accomplished by social

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[9] In spite of the strictures on the use of 'paradigm' and 'world-view' earlier, it is still quite possible to formulate and test theories about social reality, based on the world-view of the researcher, but it must be remembered that, however 'scientific' the endeavour, it will not be possible to derive universal laws of sociology, etc., from the findings.

actors. Clearly, one's ontological position will affect the manner in which one undertakes research (Grix, 2002).

Connected to an ontological assumption is the epistemological problem of what, and how, we can possibly know about the world (Blaikie, 2000; Grix, 2002; Rocco et al., 2003). In other words, epistemology is concerned with the theory of attaining knowledge, especially in regard to its methods, validation, and 'the possible ways of gaining knowledge of social reality, whatever it is understood to be' (Grix, 2002). Two contrasting epistemological positions are the perspectives of 'positivism' and 'constructivism'. Positivism refers to an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality, and beyond. Constructivism is an epistemological position that believes a strategy that respects the differences between people and the objects of the natural sciences is required to allow the social scientist to grasp the subjective meaning of social action (Bryman, 2001; Grix, 2002). The employment of any of these epistemological positions will lead to the engagement of a different methodology in social research.

Generally, it is a researcher's ontological and epistemological positions that lead to different views of the same social phenomena. As Greene and Caracelli (1997) contended, a researcher's assumptions about reality, knowledge, and values guide towards the employment of research methods. A researcher's methodological approach, underpinned by and reflecting specific ontological and epistemological assumptions, represents the choice of approach and research methods adopted in a given study. Methodology is concerned with the logic of scientific inquiry; in particular with investigating the potentialities and limitations of particular techniques or procedures (Grix, 2002). Presented in Table 2.1 are brief descriptions of different paradigms according to Guba and Lincoln (1994) in terms of their defining elements of ontology, epistemology, and methodology.

Table 2.1 Paradigm defining elements

Positivism < ————————————————————————————— > Constructivism				
Orientation	Positivism	Post Positivism (realism)	Critical theory	Interpretivism/ Constructivism
Ontology: What is the nature of the 'knowable'? Or what is the nature of 'reality'? (Guba, 1990)	'naïve realism' in which an understandable reality is assumed to exist, driven by immutable natural laws. True nature of reality can only be obtained by testing theories about actual objects, processes or structures in real world	Critical realism – 'real' reality but only imperfectly and probabilistically apprehendable	Historical realism – social reality is historically constituted; human being organisations and societies are not confined to existing in a particular state.	Relativism – local and specific constructed realities; the social world is produced and reinforced by humans through their action and interaction.
Epistemology: What is the nature of the relationship between the knower (the enquirer) and the known (or knowable)? (Guba, 1990)	Dualist / objectivist; verification of hypothesis through rigorous empirical testing; search for universal laws of principles, tight coupling among explanations, predictions and control	Modified dualist/ objectivist; critical tradition/ community; findings probably true.	Transactional/ subjectivist; knowledge is grounded in social and historical practices; knowledge is generated/ justified by a critical evaluation of social systems in the context of researcher's theoretical framework adopted to conduct research	Transactional/ subjectivist; understanding of the social world from the participants' perspective through interpretation of their meanings and actions; researchers' prior assumptions beliefs, values, and interests always intervene to shape their investigations.
Methodology: How should the enquirer go about finding out knowledge? (Guba, 1990)	Hypothetical deductive experiment/ manipulative; verification of hypotheses; may include quantitative methods	Modified experimental/ manipulative falsification of hypotheses; may include quantitative methods.	Dialogic/ dialectical; critical ethnography; interpretive case study; action research	Hermeneutical/ dialectical; interpretive case study; action research; holistic ethnography

(Source: Guba and Lincoln, 1998; Packer, 1999)

2.2 Research paradigms

There are four different research paradigms presented in Table 2.1 that include positivism, constructivism, realism, and critical theory. However, critical theory is viewed as not suitable to the nature of this study, hence it is not discussed. This means that this section discusses only three different paradigms to reflect the current research undertaken[10], namely, positivism, constructivism, and realism.

2.2.1 Positivist paradigm

Positivism is rooted in the natural sciences (Ryan et al., 1992). A positivist holds the view that reality may, to some degree, be known objectively, and that empirical evidence of the world is a legitimate form of knowledge (Swamidass, 1991; Meredith, 1993; Filippini, 1997; Scudder and Hill, 1998; Rocco et al., 2003). The ontological assumption of positivism is that the real world exists independently of subjective consciousness (Wass and Wells, 1994). This means that the observer has neither relationship nor influence on the reality (Kolakowski, 1993; Guba and Lincoln, 1994). The epistemological assumption of positivism is that only objectively observable and measurable subjects are considered as valid knowledge (Wass and Wells, 1994). As such, this paradigm's emphasis is on the use of quantifiable observations that allows a statistical treatment of the collected data. The objective of the investigation is to search for regularities and causal relationships between constituent elements (Hughes, 1990; Burrell and Morgan, 1994). In general, the role of scientific research is to test theories and to provide material data for the development of universal laws (Guba, 1990). The cycle of enquiry of a positivist involves a deductive approach, making inferences, using statistical techniques, and making predictions (Wass and Wells, 1994). Input from the researcher remains at a minimum with regard to data

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[10] While other paradigms attempt to understand or explain the social constructs, critical theory leans more towards critiquing and effecting change in societies, including its institutions. Marcuse (1964, cf. Ogbor, 2001) postulated that critical theory "strives to define the irrational character of the established rationality and to define the tendencies which cause this rationality to generate its own transformation (p. 227)."

analysis as well as the interpretation of results (Guba and Lincoln, 1994; Hussey and Hussey, 1997). As such, the positivist paradigm is characterised by being quantitative, objective, outcome-orientated, and seeks the causes of social phenomena without advocating subjective interpretation (Reichardt and Cook, 1979).

2.2.2 Constructivist paradigm

Constructivism is the extreme contradiction of positivism. Constructivists believe reality to be socially constructed, and only knowable from multiple and subjective points of view. The knower and the known are seen as inseparable. Generally, inductive logic and qualitative methods are employed with the goal of understanding a particular phenomenon within its social context (Rocco et al., 2003). Constructivism is increasingly being adopted by researchers in the social sciences following the critique of positivism for being inappropriate to the study of social phenomena due to the stripping of variables from their natural context, and the exclusion of the discovery processes (Morgan, 1983; Guba and Lincoln, 1994). The unrealistic assumption of complete independence further extends the list of criticisms of positivism (Ryan et al., 1992). Constructivists hold the belief that 'value freedom' cannot be assured, and the ability to manipulate human systems in the same manner as in biological experiments is impossible (Layder, 1994). Reality, from the constructivist point of view, cannot be measured through observed behaviour structures, let alone through statistical analysis. Instead, reality may be understood only at the individual level, and only patterns may be identified (Morgan and Smircich, 1980). The ontological assumption of a constructivist is that no real world exists outside of the consciousness of the observer, which means that reality is purely subjective (Patton, 1990; Wass and Wells, 1994). The epistemological assumption of a constructivist is that the observer is part of what is under observation. This means that it is impossible to be completely objective, or an independent observer, according to the constructivist position (Easterby-Smith et al.,

1991). The goal of the researcher is to understand a particular phenomenon within its social context. As such, constructivism is characterised by being qualitative, subjective, process-orientated, and concerned with understanding human behaviour from the actor's point of view (Reichardt and Cook, 1979).

2.2.3 Realist paradigm

Realism emerged with a realisation of the difficulty of eliminating bias in research. This paradigm occupies the middle spot of the two extreme positions – positivism and constructivism – in social science research. A realism paradigm was adopted following the critique that a positivist paradigm leads to purely quantitative research, which tends to be less helpful through its oversimplification of causal relationships. Realists contended that positivism provides only a portion of reality. This is because it is impossible for the observer to perceive the social world absolutely objectively; hence no form of science should exclusively rely on empirical evidence (Bashkar, 1978). Similarly, a constructivist paradigm is argued to have resulted in a purely qualitative research that tends to be less helpful through its selectivity in reporting (Rocco et al., 2003). The combination of these two paradigms – positivist and constructivist – provides realists with a powerful way of gaining greater insights into complex social phenomena (Jick, 1979; Miles and Huberman, 1994). The combination of these two extreme positions of paradigm in the social sciences is argued to enrich and complement one another (Saunders et al., 2003). As a result, the approach to research is flexible and allows the researcher to explore in greater depth, and with greater insight. Saunders et al. (2003) suggested two major advantages from employing multi-methods in the same study. First, different methods may be employed for different purposes. Second, the data can be triangulated without being confined to a specific research method. This flexibility results in more options when dealing with the data used to explain social phenomena.

The epistemological assumption of a realist is that it is impossible for the researcher to ignore his own beliefs while conducting social research. This includes no interference or alteration in any way with the subject that is under observation. A realism paradigm is characterised by the use of multi-methods (Patton, 1990; Miles and Huberman, 1994; Wass and Wells, 1994; Denzin et al., 2000; Bryman and Bell, 2003), and contains elements of both qualitative and quantitative approaches (Reichardt and Cook, 1979; Howe, 1988; Brewer and Hunter, 1989; Patton, 1990; Miles and Huberman, 1994). Consequently, the multi-methods research approach is viewed as stronger in that it allows a comprehensive understanding of human phenomena (Rocco et al., 2003). Also, a realist paradigm offers some flexibility where research design and implementation decisions are made according to which methods best meet the practical demands of a particular inquiry (Patton, 1988). Discussions among multi-methods researchers generally concern the 'best use' techniques and procedures for specific research problems. There is a possibility that the researcher holds no a priori commitment to using multi-methods; all are compatible and potentially useful. Mixing may occur in a particular study if the researcher decides it will help make the data collection and analysis more accurate, or the inferences more useful (Tashakkori and Teddlie, 1998). As Denzin (1989, p.307) suggested,

> "By combining multiple observers, theories, methods, and data sources, [researchers] can hope to overcome the intrinsic bias that comes from single-method, single-observer, and single theory studies".

2.3 The research approach of the current study

A review of the literature on impression management in the field of accounting suggests that researchers adopted a positivism paradigm. Related to this, previous researchers examined the secondary data in the form of texts and graphs in annual

reports and made inferences from the results of statistical analyses to explain the social phenomenon (see, for example, Johnson et al., 1980; Beattie and Jones, 1992, 1993, 1997, 1999, 2001; Curtis, 1997; Smith and Taffler, 2000; Frownfelter-Lohrke and Fulkerson, 2001; Clatworthy and Jones, 2003). Based on this, the current study also adopts a positivist research paradigm that involved the use of quantitative methods. Obviously, a constructivist paradigm cannot be adopted because the potential use of statistical inferences contradicts the methodological approach of a constructivist research paradigm. Meanwhile, a time limitation due to having to deal with an enormous amount of data prevented this study from adopting a multi-method research approach.

2.4 Theories on information disclosure

The adoption of a positivist paradigm requires an explanation in the form of a theory to explain the social phenomena. This study has identified five related theories that can be used to explain the social phenomena of corporate information disclosure. These theories are Agency Theory, Stakeholder Theory, Legitimacy Theory, Signalling Theory, and Impression Management.

2.4.1 Agency Theory

The domain of Agency Theory is the relationships between two actors, namely the principal and an agent. Generally, Agency Theory is concerned with the principal-agent problem in the separation of ownership and control of a company (Jensen and Meckling, 1976). The principal, who is the owner of the company hires an agent to act on the principal's behalf in managing the company. As such, the principal expects the agent to pursue the interests of the principal. By contrast, an agent, being the person who exerts power, seeks their own interests rather than pursuing those of the principal (Husted, 2007). This situation, where an agent acts self-interestedly, results in a conflict, referred to as an 'agency problem' (Morris, 1987). In addition to having

different goals, the principal cannot determine if the agent has behaved in accordance to their expectations. This is because only the agent has full access to private information, while the principal has no access to information privately held by the agent. In other words, the principal is the uninformed party and the agent is the informed party (Rasmusen, 1994).

Agency problems incur agency costs. In terms of resources, the external parties may value the company below its fair value if they perceived that the management (agent) is not pursuing the shareholders' (principal's) interests. The agency problem can possibly be diminished if both parties share the same information despite differing interests, which means that each party can make decisions based on the available information. Thus, equal access to information allows the parties involved to take appropriate measures to protect their interests. Also, another solution is for agents to align their interests to coincide with the interests of the principals, and vice-versa. But rather than aligning interests, the solution to ethical problems resulting from asymmetric information access is for the agent to disclose privately-held information (Husted, 2007). The principals, by having privately-held information at their disposal, are able to monitor the agent. Monitoring would make it less possible for agents to hide the consequences of their actions, or avoid being scrutinised by the principal (O'Connell et al., 2005). Although an agent may appear to disclose all privately-held information, there is a possibility that the information that they presented is biased. Related to this, Ng (1978) argued that this seemingly biased information is partially corrected by the auditor, so much so that auditing serves to limit the bias in a report produced by the agent.

2.4.2 Stakeholder Theory

Stakeholder Theory posits that companies have a responsibility to those who have vested interests in company performance, and to those who are directly affected by

the company's actions (Evan and Freeman, 1983; Freeman, 1984). Related to this, stakeholders are defined as 'all of those groups and individuals that can affect, or are affected by, the accomplishment of organisational purpose' (Freeman, 1984: p.25). The theory suggests that managers are responsible for identifying the strategic issues that affect each stakeholder, and to understanding how to set up, implement and monitor strategies for dealing with that stakeholder group. In the same light, Sternberg (1997) commented that 'stakeholder' serves as a convenient label for the various groups and individuals that organisations need to take into account when pursuing their business objectives. Related to Stakeholder Theory, Sternberg (1997, p.4) commented that,

> '...business should be run not for the financial benefits of their owners, but for the benefit of all their stakeholders. It is an essential tenet of Stakeholder Theory that organisations are accountable to all their stakeholders, and that the proper objective of management is to balance stakeholders' competing interest '.

Freeman (1984) contended, in the event that the company's actions affect the economic well being of a particular stakeholder, when that stakeholder has an influence in the marketplace, a potential economic effect may result where the profitability or stock price of the company is affected. Turnbull (1997) argued that the distribution of information through various channels creates a division of power with checks and balances to manage conflicts of interest. Organisations must be responsive to the competing demands of those who hold a stake in the organisation by providing adequate information to enable stakeholders to assess the overall performance of the company. Related to this, Kothari (2000) posited that because managers and company directors are not large stockholders, they represent management without large ownership and thus create a demand for timely disclosure in order to monitor management, and reduce the information asymmetry gap.

2.4.3 Legitimacy Theory

Legitimacy Theory begins with the assumption that a company has no inherent right to exist (Magness, 2006). That said, the public and society at large, confer the right to exist only if a company meets their expectations as to how its operations should be conducted (Herremans et al., 1999). Legitimacy is mainly about perceptions where a company must ensure that its activities actually are, or are perceived as being, in accordance with the values and norms of society, in order for it to survive (Herremans et al., 1999; Aerts and Cormier, 2008). Legitimacy, according to Zimmerman and Zeitz (2002, p. 418), is 'a social judgement of appropriateness, acceptance and desirability'. When a company behaves in accordance with the expectations of society, then the company will enjoy loyal support from that society, thereby confirming its continued existence. This means that companies that meet the expectations of the relevant public and society at large will be allowed to exist and have rights (Herremans et al., 1999; Williamson and Lynch-Wood, 2008). However, if the actual or perceived behaviour of the company is not in accordance with social values and norms, *vis-à-vis* perceptions, a breach of implied contract exists, and a legitimacy gap may develop. Failure by the company to close a legitimacy gap may result in the withdrawal of its legitimacy by certain quarters of the society (Campbell, Craven, and Shrives, 2003). In other words, a company may risk having the support of the society being withdrawn.

It is necessary for the company to take appropriate measures to close the legitimacy gap. A solution to this is for the company to make available the relevant information so that the society is able to determine whether a company is fulfilling its social contract (Williamson and Lynch-Wood, 2008). This is because legitimacy management relies heavily on communication between the organisation and its audiences (Ginzel et al., 1992; Elsbach, 1994). Companies use various communication instruments to communicate their legitimacy, including, *inter alia*,

advertisements, official website, annual reports, sustainability reports, environmental reports, and corporate social responsibility reports. Apart from reducing the legitimacy gap, these communication instruments provide the companies with an opportunity to engage in an environmental debate by presenting their own side of the story.

Legitimacy Theory is argued to concentrate on social and environmental disclosure (Campbell, 2000; Deegan, 2002; Magness, 2006; Merkl-Davies and Brennan, 2007). Environmental reporting is an essential element of legitimacy, for it develops faith in a company's good character. By disclosing environmental information, companies indirectly send a signal that their operations are in compliance with the society's environmental expectations, hence legitimising their actions. As Cho and Patten (2007) contended, companies seeking to gain or maintain legitimacy have an incentive to use communication strategies, including corporate disclosures, potentially to influence societal perceptions. By disclosing the relevant information, external parties' perceptions of the company as a whole are aligned accordingly, and the company may then enjoy continued support from external parties as a consequence of a reduced in legitimacy gap.

2.4.4 Signalling Theory

Signalling Theory was originally developed to explain problems of information asymmetry (Morris, 1987). The theory provides an explanation of why companies have an incentive to make voluntary disclosure. Companies compete against each other to secure resources from the capital market, and voluntary disclosure offers additional exposure of the company to participants in the capital market. This subsequently reduces the company's capital costs because there is less uncertainty about companies that report extensively and reliably, hence less investment risk, and a lower required rate of return (Wolk et al., 2001; p. 102). This means that the ability

of companies to raise capital is improved if the companies have a good reputation related to their corporate reporting. As a result, such companies are able to compete successfully in the market for risk capital (Holthausen and Leftwich, 1983). In the case where the information is not released to the external parties, the external parties will value the company on a par with other similar companies in the market. Companies, whose fair values are higher than the average, incur an opportunity loss because these companies could have been valued more highly if participants in the capital market had known about their competitiveness and superiority. By contrast, companies with fair values that are lower than the average incur an opportunity gain. Superior companies therefore have an incentive to report on their superiority, so that their stock value increases.

Companies also have an incentive to report regularly in order to maintain continued investor interest in the company. Companies that perform well have a strong incentive to report their good performance. Also, competitive pressures would force other companies to report, even if they did not have a good performance record. Silence, where companies decide not to report, would be interpreted as bad news. Companies with neither good nor bad news would be motivated to report their performance in order to avoid being suspected of having a poor performance. This would inevitably leave only companies with bad news not reporting. Nonetheless, according to Signalling Theory, such a situation would force 'bad news' companies to disclose their performance in order to maintain their credibility in the capital market.

The economic incentive to report (even bad news) is the core argument proposed by Signalling Theory in explaining voluntary reporting. Essentially, this theory argues that there is information asymmetry between the company and external parties when insiders (the management) know more about the current and future prospects of a company as compared to outsiders (investors). Due to this information asymmetry,

interested outsiders will protect themselves (price protection) by offering a lower price for the company. The value of the company may be increased if the company voluntarily reports private information about its own credentials. This is because the disclosure of such information reduces outsider uncertainty about the company's future prospects.

2.4.5 Impression Management

Impression management is the field of study, within social psychology, that investigates how individuals present themselves to others in order to be perceived favourably (Hooghiemstra, 2000). When it involves a company, the management has incentives to present their company's performance, and indirectly their own performance, in the best possible light. This exercise may lead towards 'selective information representation' (Revsine, 1991). In terms of corporate reporting, Clatworthy and Jones (2001, p. 311) regard impression management as 'an attempt to control and manipulate the impression conveyed to users of accounting information'. Impression management is also asserted to have been employed in corporate environmental reporting (Elsbach, 1994; Neu et al., 1998; Hooghiemstra, 2000). This is because the absence of disclosure regulations relating to environmental issues has resulted in companies providing only information that contributes towards enhancing their favourable image (Williamson and Lynch-Wood, 2008)

Impression management, from the perspective of environmental reporting, may be important for two reasons. First, environmental reporting, as a form of impression management, can contribute to a company's reputation. Related to this, companies use impression management to maintain an appearance of acting in a way that is consistent with societal values. By expressing commitment to the natural environment, for instance, companies strive to create a positive value (Wilmhurst and

Frost, 2000; Milne and Patten, 2002; O'Donovan, 2002), hence increasing the company's good reputation (Fombrun and Shanley, 1990). In the case where a legitimacy gap exists, managers employ impression management to deal with legitimacy threats (Elsbach, 1994; Elsbach and Kramer, 1996). Second, environmental reporting as a form of impression management is used to legitimise a company's actions. It is assumed that when performance is good, managers will use corporate reporting to celebrate their achievements in order to project favourable images of the corporation, and thereby enhance the legitimacy with which its activities are viewed (Gibbons et al., 1990; Patten, 1992; Arrington and Francis, 1993; Hopwood, 1996; Brown and Deegan, 1998; Buhr, 1998; Neu et al., 1998; Deegan, 2002). In the case where companies demonstrate poor performance, managers over-play good news, and under-play bad news, so much so that the good news overshadowed the bad news.

There were seven impression management strategies examined in previous studies, namely reading ease manipulation; rhetorical manipulation; thematic manipulation; visual and structural manipulation; performance comparison; choice of performance data; and the attribution of organisational outcomes (Merkl-Davies and Brennan, 2007). Merkl-Davies and Brennan (2007) argued that the first six strategies are used for the concealment of information. Three out of these seven impression management strategies are viewed as relevant to the current study. They are:

- Thematic manipulation
- Visual and structural manipulation
- Performance comparison

2.4.5.1 Thematic manipulation

Thematic manipulation is an impression management strategy that emphasises on positive words and themes (Merkl-Davis and Brennan, 2007). It is assumed that any management using this strategy is attempting to conceal the bad news, either by not disclosing it, or disclosing it minimally so that it is eclipsed by the exaggerated good news. This means that if management chooses to disclose information related to a certain issue, then they will ensure that the number of incidents involving good news outweighs the number of incidents involving bad news. By so doing, the management attempts to portray the company in a more favourable manner than is warranted by the bare facts.

2.4.5.2 Visual and structural manipulation

Visual and structural manipulation involves the way in which information is presented. When it concerns the former, management may use a variety of visual effects to make a piece of information more appealing to the readers (Merkl-Davis and Brennan, 2007). This includes highlighting to emphasise, increasing font size, embolding text, and so on. The employment of visual effects for the information presentation results in presentation enhancement (Beattie et al., 2008). This includes the use of photographs to manage the perceptions of the viewers. Wilmshurst and Frost (2000) suggested that there is a possibility that management use photographs to impress readers, with their approach to operational issues. In this way, management presents selective pictorial material to draw attention to specific topics. Generally, positive images are treated favourably, while negative images are treated unfavourably. The management are aware of this general convention, and thus may present selective photographs to convey their intended message to the readers in the most appropriate and effective manner. That said, there is an element of creativity in

photography where an image can be captured, and then presented it in such a way that is perceived as favourable rather than unfavourable[11].

Merkl-Davis and Brennan (2007) contended that there is evidence suggesting that companies manipulated visual and structural effects to emphasis good news. In relation to structural manipulation, Beattie and Jones (1992) contended that the physical measurements of the presentation formats are designed not to be in direct proportion to the numerical values that they purport to represent. For example, a measurement distortion involving a graph occurs when a graph's axis is correctly drawn, but they misrepresent the underlying data. Another example takes place when using graphical devices such as a non-zero axis, or a broken axis, which causes the rate of change in the trend to appear greater than is actually the case. In addition, the presentation of a graph with a Graph Discrepancy Index (GDI) value of less than -5 and more than +5 is viewed as violating the proper design and construction of a graph, hence demonstrating an attempt at impression management.

2.4.5.3 Performance comparison

Performance comparisons involve choosing benchmarks to boost the good performance. Related to this, companies are assumed to introduce a positive bias by choosing performance comparisons that enable them to portray their current performance in the best possible light (Merkl-Davis and Brennan, 2007). Related to this, companies manipulate the performance comparison by selectively comparing performance indicators against a base year to the extent that the performance for the current year appears as favourable. The management is asserted to avoid making any comparison in the case where current performance is regarded as poor as compared to the previous year's performance. In the event where the performance is

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[11] For example, a photograph of a group of men with the background of a clean environment is regarded as favourable while a photograph of the very same group of men with the background of a filthy environment is regarded as unfavourable.

good, then management is asserted to stretch the comparison period to the extent that the performance for the current year is highly exaggerated.

2.5 Theoretical framework adopted in the current study

The adoption of appropriate theories for the current study is critical to ensure that a proper explanation be made on the issues under investigation as well as to guide the researcher in the development of hypotheses. The focus of this study on the influence of the differences in the nature and extent of presentation formats of photographs, graphs, and tables, seems to coincide naturally with Impression Management. This is because management has discretion in their reporting choice. This means that the management is free to choose which presentation formats to use to influence the impression of the readers. In this vein, Signalling Theory complements Impression Management by communicating favourable signals to the readers of annual reports and stand-alone reports (Ross, 1979). A signal, according to Spence (1973, 1974), is an indicator displayed by one party to communicate to others with the intention of producing effects in the receiver's beliefs, attitudes, or behaviours. In the context of this study, there exists a potential signal transmission, via photographic images, as well as the number of graphs and tables, as presented in those reports. Based on Signalling Theory, companies that report extensively may reduce the uncertainty that the participants in the capital market have towards them, hence reducing the companies' capital costs. Another example involves the nature of photographic presentations where images of men in photographs are asserted to reflect power, rationality, emotional stability, aggressiveness, self-reliance, objectivity, and vigour (Kuiper, 1988; Kolmar and Bartkowski, 2005), while photographs of women stereotypically reflects emotional instability, followers, and dependence (Frasher and Walker, 1972; Purcell and Stewart, 1990). Simply, this implies that photographs differ in terms of what the images are reflecting on, which means that

management may selectively pick the types of photograph that they viewed as appropriate to convey their intended messages.

By contrast, Agency Theory, Stakeholder Theory and Legitimacy Theory appear to be *prima facie* less appropriate in the context of presentation formats. Agency Theory is primarily derived from economic theory and deals with the interests of agents and principals. Agency Theory explains the usability of annual reports as a medium of communication between the agent and the principal. Managers (the agent) use annual reports to acknowledge to the shareholders (the principal) that they are pursuing the interests of the principal rather than their own personal interests. As for shareholders, the annual reports act as a device to monitor as well as to assess the behaviour and performance of the managers, to ensure that they are pursuing the interests of the shareholders, rather than their own interests, thus reducing agency problems. As such, Agency Theory is argued to be more appropriate for disclosure and financial issues. Stakeholder Theory widens Agency Theory for it takes into the consideration the interests of the relevant and strategic publics. That said, Stakeholder Theory is still primarily concerned with the disclosure of information that might have an economic impact. Stakeholder Theory holds that it is the responsibility of the company to ensure that the stakeholders are being adequately provided with economic information, especially in the areas where stakeholders have competing interests. Finally, Legitimacy Theory is primarily concerned with the disclosure of information about the manner in which the operations of the companies are conducted, and whether the society perceived these operations as being in compliance with their expectations so that the companies can be allowed to continue operational. Related to this, the companies disclose their social and environmental information in order to demonstrate that the operations of the companies are in compliance with the values and norms of the society. Also, the companies, via the disclosure of this information, attempt to instil within society, faith in the companies'

good character and thus should be allowed to exist and have rights. Legitimacy Theory, therefore, appears to be primarily concerned with the disclosure, rather than, the presentation of information.

Overall, Agency Theory, Stakeholder Theory, and Legitimacy Theory appear to focus on the need to reduce the information asymmetry gap between the reporters and related parties, internal or external, to the companies. Therefore, the adoption of Agency Theory, Stakeholder Theory and Legitimacy Theory do not correspond with the nature of this study, which focuses on the way the information is being presented in the annual reports and stand-alone reports. In particular, this study examines the comparative presentation formats of photographs, graphs, and tables between these two different types of reports, produced by the same reporters, in terms of the similarities and differences in their presentations. Also, this study examines the presentation of photographs in annual reports and stand-alone reports, and graphs, tables, and texts in stand-alone reports to determine the presence of impression management. This means that the investigation of this study is limited to the information presentation in the form of photographs, graphs, tables, and texts, rather than the amount and detail of discretionary and voluntary information that the companies are presenting. This also means that detail, adequateness, and appropriateness of the regulatory and discretionary information *per se*, presented in annual reports and stand-alone reports is beyond the scope of this study, hence the inappropriate adoption of Agency Theory, Stakeholder Theory, and Legitimacy Theory. Therefore, this study adopts Impression Management and Signalling Theory.

2.6 Summary

The philosophical aspects of social sciences research is important for it determines the way the research is to be undertaken. There are three research paradigms — positivism, constructivism, and realism — that have potential to be adopted in the

current study. For each and every paradigm, assumptions underpinning the research approach are formulated. These assumptions include the nature of reality (ontological assumptions), the role of the researcher (epistemological assumptions), and the research process itself (methodological assumptions). The previous studies on impression management akin to the current study suggested that a positivist paradigm is the appropriate research approach for the current study. The adoption of positivism leads toward the employment of related theories in explaining the social phenomena under investigation. There are five related theories on information disclosure, namely, Agency Theory, Stakeholder Theory, Legitimacy Theory, Signalling Theory and Impression Management. Agency Theory, Stakeholder Theory, and Legitimacy Theory appear to focus on the information disclosure in an attempt to reduce the information asymmetry gap between the reporters and related parties, with direct or indirect effects on the companies. The nature of the current study that focuses on the presentational aspects of the information, suggested the adoption of Signalling Theory and Impression Management. This study is based on these two theories, and coupled with the literature review, the hypotheses for the current study are developed in Chapter 3 *infra*. Also, these theories will be engaged in the discussion related to the findings of this study in Chapter 8 *infra*.

Chapter 3: Literature review & hypothesis development

3.0 Introduction

Information disclosure is an important area of research in the field of accounting. Information disclosure reduces the asymmetric information gap between the company and its shareholders as well as other stakeholders. Empirical studies under the rubric of information disclosure, according to Ball and Foster (1982), are classified into four main categories: (1) disclosure content, (2) disclosure indexes, (3) timing of disclosure, and (4) responses to questionnaires or interviews related to corporate disclosure. This study falls under the category of disclosure content. That said, previous studies akin to the current study are reviewed and discussed in an attempt to establish a foundation for the current study and also to guide in the development of hypotheses[12]. It is pertinent to note that previous studies have focused mostly on annual reports as compared to any other corporate official documents.

The remainder of this chapter is structured as follows. The following section, Section 3.1 presents a review of the literature related to the length of annual reports. The next section, Section 3.2, highlights some prior studies that investigated the information presentation formats. Then, Section 3.3 presents a review of literature on the influence of company characteristics on information disclosure, and Section 3.4, presents previous studies on impression management. The last section, Section 3.5 is a summary that concludes this chapter.

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[12] In this study, all hypotheses are stated in the alternate form.

3.1 The length of reports

Very few studies documented the changes in the length of annual reports of UK listed companies (Lee, 1994; Davison and Skerratt, 2007; and Beattie et al., 2008 are the notable exception). Lee (1994) examined the overall content of annual reports produced by companies in the UK. He conducted a longitudinal study to investigate changes in the annual reports of 25 large UK industrial companies between 1965 and 1988. He reported that the number of pages for annual reports increased from an average of 26 pages in 1965, to 54 pages in 1988.

Davison and Skerratt (2007) examined the contents of 165 reporting documents for 2002 produced by all UK FTSE 100 companies[13]. Among others, they looked at the regulatory and the discretionary information pages of the annual reports. They also compared their findings against the findings reported in Lee (1994). They reported that the average number of pages for annual reports was 90. The minimum and maximum number of pages for annual reports according to them was 48 and 200, respectively. The increase in the number of pages for annual reports, they contended, was mostly due to an increase in both the regulatory pages and the discretionary pages. They reported that the average number of regulatory pages had increased from 15 in 1965, to 66 pages in 2002, while for discretionary pages, the average number of pages were reported to have increased from 11 in 1965, to 24 pages in 2002.

Beattie et al. (2008) conducted a longitudinal study that examined the changes in structural and presentational formats of annual reports of UK listed companies from 1965 to 2004. They employed the findings of Lee (1994), and the availability of an archive of corporate reports from 1989–1990 in addition to a new data collected from

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[13] 35 companies produced only annual reports while 65 companies produced both annual reports and annual reviews.

2003–2004 reports. The new data added in their study was collected from the annual reports of 94 companies. They then compared the findings over the years at these three different points in time (1965, 1989, and 2004). Overall, they reported a sharp increase in the number of report pages, voluntary information, and narrative information, particularly among large listed companies. They also reported that the average number of annual reports pages had increased from 26 in 1965, to 75 pages in 2004.

Overall, previous studies reported an increase in the number of annual report pages over time. Related to this, Davison and Skerratt (2007) argued that the increase in the number of annual report pages over time is largely due to the increase in regulatory disclosure. Indeed, this disclosure is regulated in order to protect shareholders' interests against the gross misdemeanours of companies, as demonstrated in cases related to the collapse of several large companies around the world that include *inter alia*, Enron, Pharmalat, and WorldCom. As such, the increase in the number of annual report pages is viewed to predominate. From the perspective of Signalling Theory, the increase in the number of annual reports pages is a reflection of the extensive reporting regime that the companies are practicing in an attempt at giving additional exposures to participants in the capital market about the company. Others, however, may view this as a signal of the companies' superiority over their business counterparts.

Similarly, the number of stand-alone report pages is expected to be on an increasing trend, in line with the increase in environmental awareness over the years. Interpreted through the lens of Signalling Theory, companies are providing some additional information to complement the information contained in the annual reports. This information, as earlier stated, offers additional exposure of the companies to participants in the capital market. The companies also, by presenting the social and

environmental information, are sending out signals of their willingness to do their part in improving the general life and well being of society and other stakeholders. No prior study has documented the changes in the number of stand-alone report pages over time. Meanwhile, the latest information relating to the mean number of annual report pages is only up to year 2004, as reported in Beattie et al. (2008). Indeed, annual reports contain regulatory and voluntary information whereas stand-alone reports contain only voluntary information. As such, it is expected that the number of annual report pages will be more than that for the stand-alone reports. Thus, the related hypotheses to be tested in this study are as follows:

H_{1a} – *The number of annual report pages increases over time*

H_{1b} – *The number of stand-alone report pages increases over time*

H_{1c} – *Overall, the number of pages is more in annual reports than in stand-alone reports*

3.2 Information presentation formats

Information may be presented in various forms. That said, the literature review in the context of this study, is confined to photographs, graphs and tables, being the presentation formats central to the current study.

3.2.1 Photographs in reports

There are a limited number of studies that explore photographic presentations in corporate annual reports around the globe. Lee (1994), Davison and Skerratt (2007), Beattie et al. (2008), and Campbell et al. (2009) represent limited studies on photographs in the annual reports of UK companies. Meanwhile, Kuiper (1988), David (2001), Bernardi et al. (2002), Benschop and Meihuizen (2002), Bernardi et al. (2005), and De Groot et al. (2006) are among the few studies on photographs conducted in other parts of the globe.

Lee (1994) examined the characteristics of annual reports of 25 large UK industrial companies between 1965 and 1988. Among other things, he examined the pictorial materials in annual reports. He reported that the mean number of pages occupied by photographs had increase from 3 in 1965, to 10 pages in 1988.

Davison and Skerratt (2007) examined the contents of 165 reporting documents produced in 2002 by all UK FTSE 100 companies. They reported that the space occupied by photographs was 10 pages on average. They compared their findings with those of Lee (1994) and suggested that there were no changes in the average number of report pages occupied by photographs over time. They also reported that the words and pictures had occupied an average of 52% of report spaces.

Beattie et al. (2008) conducted a longitudinal study to examine the structural and format changes in annual reports of UK listed companies from 1965 to 2004. Photographs were among the items that they examined. They compared their findings on photograph presentation formats with the findings of Lee (1994). They reported that the average number of report pages occupied by photographs had decreased from 10 in 1988, to only 6 pages in 2004. However, the number of photographs in annual reports of UK companies on average is reported to have increased from 3 in 1965, to 6 photographs in 2004.

Campbell et al. (2009) examined human representation in the annual reports of 14 top UK FTSE 100 companies for a 15-year period from 1989–2003, inclusive. They reported a significant increase in human representations, in the form of human faces. Although they presented a line graph to show the increase in the trend of photograph presentations involving human faces, the actual number of photographs involved was not stated. Meanwhile, studies on photograph presentation formats in the annual reports of non-UK companies appear to be more comprehensive. Apart from

examining the number of photographs presented in annual reports, those related studies also analysed the content of photographs in more detail.

Kuiper (1988) examined the gender bias in corporate annual reports for 1985 of 50 companies that were randomly selected from the 1983 Fortune 500. She reported the existence of unequal representation of males and females in corporate annual reports, where males were represented 35% more than their actual presence in the labour force, while females were represented 25% less than their presence in the labour force.

David (2001) analysed photographs in the annual reports of General Electric and Microsoft. She reported that the annual reports of General Electric rely heavily on photographs, and that these photographs are carefully selected, posed, and cropped to emphasise the serenity of the work locations. She also reported that the annual reports of Microsoft combine stylish graphics with photographs to produce artful designs that illustrate the integration of the technological environment with people.

Bernardi et al. (2002) examined the gender mix of boards of directors' photographs in the annual reports of 472 Fortune 500 companies for the year 2000. They reported that the annual reports produced by 130 of these companies contained pictures of their boards of directors, while 342 companies did not. They reported that the companies presenting photographs of their board of directors had significantly more female directors than the companies that did not present photographs of their board of directors.

Benschop and Meihuizen (2002) studied the representation of gender in annual reports of 30 companies listed on the Amsterdam Stock Exchange for 1997. They reported that a total of 518 photographs of people were presented in only 25 annual

reports. Further, they reported that out of 71% of pictures depicting only men, 61% of these pictures portrayed men individually, and out of 15% of the pictures solely depicting women, only 50% of these featured women individually. They therefore concluded that companies, in general, favour pictures of men, and are reluctant to show more than one woman photographed individually. Also, men, according to them, have a higher probability of being portrayed in their job environments, in their offices, factories, or construction sites, whereas women are relatively more frequently shown in other locations - at home, outdoors, in shops and grocery stores, or with their families.

Bernardi et al. (2005) surveyed diversity differences in the annual reports of Fortune 500 companies in 2001 that provided, or did not provide, pictures of their boards of directors in their annual reports of the previous year. The 52 corporations that responded to their survey included pictures of their board somewhere within their annual reports. Another 103 corporations did not include pictures of their boards in their annual reports. They then compared the average percentage of ethnic minority directors between the group of 52 responding corporations and the group of 103 responding corporations and reported a significant increase in the presence of ethnic minorities when pictures of board members are included in annual reports.

In a slightly different approach to photograph study, De Groot et al. (2006) compared the types of photographs presented among companies of various nationalities. Specifically, they compared the findings from the content analysis of textual and pictorial themes of Dutch-English CEO statements, British CEO statements, and the British Company Chairman's statements in annual reports of 44 Dutch and UK companies. They established a total of 97 textual themes, and 15 of these themes are reported to occur prominently across those three types of statements. Similarly, they established a total of 23 photographic themes. They reported that the themes

were centred on specific company-related items, i.e. members of management, employees, and the workplace.

Overall, the number of photographs in annual reports of UK companies over time has been reported to be increasing[14]. Related to this, Preston et al. (1996) argued that visual images are integral elements in annual reports. Since the number of annual report pages is expected to increase[15], there is a possibility that photographs will occupy some of these 'new report spaces'. After all, the inclusion of photographs is able to transform annual reports from dull reading material into colourful marketing and public relations documents (Beattie et al., 2008). The same phenomenon is expected to involve the stand-alone reports. Stand-alone reports are voluntary in nature, which means that there are no standard guidelines as to how the reports have to be presented. As the old adage goes, a photograph is worth a thousand words. Consistent with Signalling Theory, companies are able to promote the image that they want to portray via photograph presentations. Thus, related hypotheses to be tested in this study are as follows:

H_{2a} – *The number of photographs in annual reports increases over time*

H_{2b} – *The number of photographs in stand-alone reports increases over time*

Annual reports are mandatory in nature, which means that companies are required by the law to produce these reports, failing which, action will be taken against the defaulting companies by the respective regulatory agency. Although voluntary disclosure in annual reports is allowed, their inclusion in these reports was given lower priority as compared to the compulsory information that the companies need to

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[14] This is based on findings from previous studies by Lee (1994) and Beattie et al. (2008). In these studies, the average number of photographs are reported to increase, albeit, with a decrease in the number of pages occupied by photographs.
[15] Refer to hypothesis H_{1a}.

disclose. In other words, the presentation of voluntary information in the annual reports comes into frame only after the companies had fulfilled the requirement for the regulatory information presentation. By contrast, stand-alone reports are voluntary in nature and their preparation is at the full discretion of the management. There is no compulsory guideline that companies need to follow in the preparation of the report, which means that their preparation is more flexible as compared to the preparation of annual reports. Consistent with Signalling Theory, companies are expected to utilise to the utmost the discretionary aspect in report preparation by presenting more photographs in the stand-alone reports in an attempt to highlight the specific image that they intended to portray[16]. In addition, size of the photographs is expected to be enhanced to attract the attention of the readers. Indeed, a larger, rather than smaller, size photograph produces a considerable impact on the readers as image detail in a photograph becomes more noticeable. Thus, related hypotheses to be tested in this study are as follows:

H_3 – *Overall, there are more photographs in stand-alone reports than in annual reports*

H_4 – *Overall, the size of photographs is larger in stand-alone reports than in annual reports*

Companies include the auditors' certificate in their annual reports to convince the readers of the truthfulness of information that they presented. Similarly, companies are also expected to present portrait photographs as a signal of the truthfulness of information that is being presented. This is because portrait photographs are argued to be associated with the information truthfulness (Graves et al., 1996; Buchanan, 2001). Comparatively speaking, there are more facts and figures in annual reports than in stand-alone reports. On the other hand, companies generally use stand-alone

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[16] For example, a photograph of the big headquarters building portrays the superiority of the company.

reports to disclose additional information about their other information, including *inter-alia*, social and environmental information. As such, the presentation of portrait photographs in annual reports, rather than stand-alone reports, is expected. A related hypothesis to be tested in this study is as follows:

H_5 – Overall, there are more portrait photographs in annual reports than in stand-alone reports

The management is reported to favour the presentation of photographs of men rather than photographs of women. By presenting photographs of men, the management attempts to send a signal of their capability in managing the company. Men in photographs are argued to reflect power, rationality, emotional stability, aggressiveness, self-reliance, objectivity, and vigour (Kuiper, 1988; Kolmar and Bartkowski, 2005), while women in photographs stereotypically reflect emotional instability, followers, and dependence (Frasher and Walker, 1972; Purcell and Stewart, 1990). Thus, related hypotheses to be tested in this study are as follows:

H_{6a} – There are more photographs of men than women in annual reports

H_{6b} – There are more photographs of men than women in stand-alone reports

3.2.2 Graphs

There are a substantial number of studies on the presentational aspects of graphs in annual reports around the globe. However, studies on graphs in reports other than annual reports are found to be lacking, let alone studies that compare the number of graphs as between annual reports and stand-alone reports.

In the UK, Beattie and Jones (1992) investigated the use and abuse of graphs in annual reports in a sample of 240 large UK companies for the year ended 1989.

They reported that 79% of these companies used graphs. The mean number of graphs in the annual reports of graph-using company was 7.5. Meanwhile, Green et al. (1992) carried out a study in Ireland using 117 semi-state sector and public limited companies' annual reports. They reported that only 54% of the companies included graphs in their annual reports, and that the mean number of graphs per graph-using company was 8.0.

In the US, Johnson et al. (1980) randomly selected 50 US corporate annual reports from the Fortune 500 in 1977 and 1978. They reported that the total number of graphs in these 50 annual reports as 423, or an average of 8.5 graphs per annual report. Also in the US, Steinbart (1989) conducted a study of 319 Fortune 500 annual reports for 1986. He reported that 79% of the companies used graphs in their annual reports, and the mean number of graphs per graph-using company was 10.0.

In Canada, CICA (1993) surveyed 200 Canadian companies' annual reports for 1991. 83% of these companies are reported to have presented graphs, and the mean number of graphs per graph-using company was 10.1. In Australia, Mather et al. (1996) analysed the annual reports of 143 top-listed Australian companies and 44 not-for-profit entities for 1991–1992. They reported that 83% of these companies used graphs in their annual reports.

In a non-western context, Courtis (1997) conducted a study on graph presentations in the Asian region by using two different samples of Hong Kong companies. The first sample comprised 364 listed companies on the Hong Kong Stock Exchange (HKSE) from 1992 to 1993. The second sample comprised 327 listed companies on the HKSE from 1994 to 1995. He reported that only 38% of the companies in the first sample included graphs in their annual reports, and the mean number of graphs per

graph-using company is 5.3. For the second sample, only 35% of the companies presented graphs with a mean number of graphs per graph-using company of 4.98.

In perhaps the first ever inter-country study of graphical presentations, Beattie and Jones (1997) compared the graph reporting practices of 176 leading US and UK industrial companies' annual reports for 1990. They reported that 92% of US companies used graphs compared with 80% of UK companies. As for the mean number of graphs per graph-using company, the values were reported to be 14.2, and 9.7 for the US and the UK, respectively.

Two years later (1999), Beattie and Jones conducted a study on the uses and abuses of graphs among the corporate annual reports of the top 100 companies listed on the Australian Stock Exchange in 1991 (Beattie and Jones, 1999). They reported that 89% of the companies used graphs and the mean number of graphs per graph-using company was 10.5.

Frownfelter-Lohrke and Fulkerson (2001) compared the relative incidence and measurement distortion of graphs contained in a matched sample of 270 annual reports from 74 US and non-US companies listed on two major US stock exchanges. They reported that both the US and non-US companies relied heavily on graph presentations, and the annual reports of non-US companies contained a significantly higher number of graph presentations. The non-US reports had on average 9.36 graphs as compared to 7.46 graphs for the US companies.

Beattie and Jones (2001) conducted a study on the use of graph presentations in corporate annual reports at the international level. They examined 300 annual reports from 6 developed countries i.e. US, UK, Australia, France, Germany, and the Netherlands (50 companies from each country). They reported that across the six

countries, 88% of the companies that they examined included graphs in their annual reports. The incidence of the use of graphs (any financial or non-financial variables) in the annual reports for each country was consistently very high, ranging from 92% of companies in Australia to 82% in the UK: the three countries with the highest percentage of companies using graphs were Australia (92%), the Netherlands (90%), and the US (90%). The mean number of graphs per graph-using company for each of these countries was 9.8 for the US, 6.3 (UK), 9.7 (Australia), 12.5 (France), 8.1 (German), and 7.2 (the Netherlands).

In their recent study, Beattie et al. (2008) examined graphs presented in annual reports of large UK listed companies from 1965 to 2004. Albeit a declining trend in the number of key financial graphs was observed, they reported that the average number of graphs increased from 5.9 in 1989 to 6.9 in 2004.

Graphs are posited to aid investors in making investment decisions for they allow the evaluation of information on multiple attributes (Lurie and Mason, 2007). In that vein, graphs are expected to be employed not only in annual reports but also in stand-alone reports. Nonetheless, the increase in the number of graphs reported in Beattie et al. (2008) was not substantial. Davison and Skerratt (2007), who examined detail contents of 165 reporting documents produced in 2002 by all the UK FTSE 100 companies, reported that graphs only occupied 7% of the report spaces. Based on these findings, no substantial increase in the number of graphs over time is expected. Thus, related hypotheses to be tested in this study are as follows:

H_{7a} – *There is no difference in the number of graphs in annual reports over time*

H_{7b} – *There is no difference in the number of graphs in stand-alone reports over time*

H_{7c} – *Overall, there is no difference in the number of graphs between annual reports and stand-alone reports.*

3.2.3 Tables

There is no study prior to this study that examined the number of tables in annual reports, or in stand-alone reports, hence a gap exists in the related literature. The usefulness of tables in aiding readers to understand the data is reported in Benbasat and Dexter (1986). In their study, Benbasat and Dexter (1986) conducted a laboratory experiment to assess the influence of colour and information presentations, differences in colour and information presentations, and differences in user perceptions and decision-making, under varying time constraints. They evaluated three different information presentations that included tables, graphs, and combined tables-graphs. The subjects were 58 MBA students, 5 undergraduates, and 2 business school doctoral students. When given a reasonable amount of time to solve a problem, the performance of the subjects was reported to be based on the information presentation format used. The use of tables, and combined tables-graphs, were better in aiding decision-making than graphs alone, while the use of combined tables-graphs was found to be better than tables alone. In terms of ranking, combined tables-graphs occupied the first position. The second position, in the ranking of performance of the subjects, was tables, while graphs occupied the third position.

The main purpose of annual reports is to communicate the information related to the performance of the company while the purpose of stand-alone reports is to complement the annual reports by providing additional information to assist shareholders and other stakeholder into making informed investment decisions. Comparatively speaking, annual reports disclose more figures than stand-alone reports. Tables are a more practical presentation mechanism for presenting data in

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figures in an orderly manner, and/or to summarise figures (Stephen and Hornby, 1995). Thus, more, rather than fewer, tables are to be expected in annual reports. An increase in the number of tables in annual reports is also expected due to the increase in regulatory disclosure (Davison and Skerratt, 2007). That said, the increase in the number of tables is expected to spill over into the stand-alone reports resulting from, *inter alia*, changes in business management practices during the past few decades (Beattie et al., 2008). Thus, related hypotheses to be tested in this study are as follows:

H_{8a} –   The number of tables in annual reports increases over time.

H_{8b} –   The number of tables in stand-alone reports increases over time.

H_{8c} –   Overall, there are more tables in annual reports than in stand-alone reports.

3.3 The influence of company characteristics on information disclosure.

This study examines the influence of company characteristics on the length of annual reports and stand-alone reports as well as the number of photographs, graphs and tables in these two reports. Those company characteristics are size, performance, business activity and listing status[17]. In the previous studies, the first three characteristics – size, performance, and business activity – are reported to have influenced the various aspects of information disclosure. The influence of size was reported, *inter alia*, in Grey et al. (1995), Brammer and Pavelin (2006, 2008), and Murray and Gray (2006). The influence of performance was reported in Sydserff and Weetman (2002), Al-Tuwaijri et al. (2004), Murray and Gray (2006), and Fortanier and Kolk (2007), while the influence of business activity was examined in Hughes et al. (2000, 2001), Patten (2002), and Cho and Patten (2007).

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[17] This refers to whether the company is listed or not listed on the FTSE4Good Index

There has been no documentation of prior studies that analysed the influence of listing status on the corporate reporting behaviour. In the wake of the environmental awareness, the FTSE4Good share index is viewed as an appropriate indicator for categorising reports based on the sensitivity of these companies' business activities towards the natural environment. This knowledge will indeed allow a better understanding on the reporting behaviour of the respective companies.

3.3.1 Size

Gray et al. (1995b) examined two different samples of annual reports of UK companies from 1979–1991 inclusive. The first sample (relating to 1979–1991) is a haphazard sample that includes a wide range of companies by size. The second sample (1988–1991) concentrated exclusively on the UK's 100 largest companies. Details of the disclosure were only collected from 1988 onwards, primarily for their second sample. Generally, they reported to have observed a significant change in the companies' reporting behaviour on matters pertaining to social disclosure throughout the 13-year period of study. They reported that the amount of social disclosure rose from an average of over one page to nearly five pages at the end of the study period. Due to a visibility factor, larger companies were reported to have disclosed more information as compared to their smaller business counterparts.

Brammer and Pavelin (2006) examined the patterns in voluntary environmental disclosure of 447 large UK companies listed on the FTSE All-Share Index, drawn from a diverse range of industrial sectors. They classified their analysis with respect to the companies' decision to make a voluntary environmental disclosure, and on an evaluation of the quality of such disclosure. In particular, they examined how each type of decision was determined by company and industry characteristics. They

reported that, in part, larger, less indebted companies, with dispersed ownership, were significantly more likely to make voluntary environmental disclosure[18].

Murray and Gray (2006) examined the annual reports of the 100 largest UK companies over a period of ten years, between 1988 and 1997 on the level of voluntary disclosure in the companies' annual reports. They reported that smaller companies are more likely to have consistently lower levels of total and voluntary social, and environmental disclosure, while larger companies are more likely to have consistently higher levels of total and voluntary social, and environmental disclosure.

Brammer and Pavelin (2008) examined patterns in the quality of voluntary environmental disclosure of around 450 large UK companies from a diverse range of industrial sectors. Their analysis distinguishes 5 facets of quality that include, *inter alia*, disclosure of group-wide environmental policies, environmental impact targets, and environmental audits. They examined how the decisions related to each facet of quality, as determined by company and industry characteristics. They reported that the quality of disclosure is determined by a company's size and the nature of its business activities. Specifically, a high quality disclosure, according to them, is primarily associated with larger companies, and those in sectors most closely related to environmental concerns.

Based on a review of the literature, the level of disclosure is expected to be more rather than less for larger companies. Related to this, Signalling Theory posits that larger companies have an incentive to send a signal that reflects on their superiority. The signals are of various forms, including, *inter alia*, number of pages, and the level of information disclosure. When it concerns the latter, the increase in the level of information disclosure is expected to result in an increase in the number of

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[18] They also reported other significant findings, but only findings related to the current study are considered here.

presentation formats employed. Thus, related hypotheses to be tested in this study are as follows:

H_{9a} – *The larger companies rather than the smaller companies presented more pages of annual reports.*

H_{9b} – *The larger companies rather than the smaller companies presented more pages of stand-alone reports.*

H_{10a} – *The larger companies rather than the smaller companies presented more photographs in annual reports.*

H_{10b} – *The larger companies rather than the smaller companies presented more photographs in stand-alone reports.*

H_{11a} – *The larger companies rather than the smaller companies presented more graphs in annual reports.*

H_{11b} – *The larger companies rather than the smaller companies presented more graphs in stand-alone reports.*

H_{12a} – *The larger companies rather than the smaller companies presented more tables in annual reports.*

H_{12b} – *The larger companies rather than the smaller companies presented more tables in stand-alone reports.*

3.3.2 Performance

A review of the literature suggested that profitability and share returns are among the proxies for performance measurement. Profitability is used as a proxy of performance in Sydserff and Weetman (2002), while share returns are used as a proxy of performance in Murray and Gray (2006). Data related to company profitability is

widely available and easy to capture, hence it is used as a proxy of performance in the current study.

Al-Tuwaijri et al. (2004) investigated the relationships between economic performance, environmental performance, and environmental disclosure in the annual reports of 198 selected companies. They suggested that good environmental performance is significantly associated with good economic performance. Consequently, they reported to have observed a significant, positive relationship between environmental performance and environmental disclosure. That is, disclosure scores were higher for companies with better environmental performance.

Murray and Gray (2006) examined the annual reports of the 100 largest UK companies over a period of ten years, between 1988 and 1997. They reported that companies within their sample with consistently lower share returns were likely to have consistently lower levels of total and voluntary social and environmental disclosure. Equally, they reported that companies with consistently higher returns were likely to have consistently higher levels of total and voluntary social and environmental disclosure.

There exist also studies that reported on the non-influential effects of profitability on disclosure of information. Fortanier and Kolk (2007) for example, analysed the content of the stand-alone reports of 161 multinational enterprises included in the Fortune Global 250 list for 2004. They reported that the information disclosure was influenced by region, sector, and size, but not by profitability.

A review of the literature suggested that the findings related to the influence of profitability on corporate information disclosure are mixed. Through the lens of Signalling Theory, profitable companies are argued to have incentives for disclosing

more information to highlight their favourable financial performances. This indirectly results in an enhancement in the number of report pages, as well as the number of presentation formats, in the reports produced by these companies. Steinbart (1989) for instance, contended that US companies are more likely to include graphs of key variables when profits have increased. Thus, related hypotheses to be tested in this study are as follows:

H_{13a} – *The improved performance companies rather than the non-improved performance companies presented more pages of annual reports.*

H_{13b} – *The improved performance companies rather than the non-improved performance companies presented more pages of stand-alone reports.*

H_{14a} – *The improved performance companies rather than the non-improved performance companies presented more photographs in annual reports.*

H_{14b} – *The improved performance companies rather than the non-improved performance companies presented more photographs in stand-alone reports.*

H_{15a} – *The improved performance companies rather than the non-improved performance companies presented more graphs in annual reports.*

H_{15b} – *The improved performance companies rather than the non-improved performance companies presented more graphs in stand-alone reports.*

H_{16a} – *The improved performance companies rather than the non-improved performance companies presented more tables in annual reports.*

H_{16b} – *The improved performance companies rather than the non-improved performance companies presented more tables in stand-alone reports.*

3.3.3 Business activity

Hughes et al. (2000) investigated the 1992 annual report disclosure of 20 companies classified by Fortune magazine as either leaders or laggards with respect to environmental performance. They reported to have observed indifference in the level of voluntary disclosure across the better and worse environmental performers.

Hughes et al. (2001) examined the environmental disclosure in annual reports of 51 US manufacturing companies for 1992 and 1993. They investigated the difference in the level of information disclosure between companies rated as good, mixed and poor, in terms of environmental performance. They reported that overall, poor environmental performance companies were those who make the higher level of disclosure.

In another study, Hughes et al. (2001) analysed presidents' letters in the annual reports to examine the differences in environmental disclosure between companies classified as good, mixed, or poor environmental performers by the Council on Economic Priorities. They reported that the level of environmental disclosure between the respective companies was indifferent.

Patten (2002) examined environmental disclosure in the 10-K reports for 1990, of 131 US companies. He included size and industry membership variables in his model to control for their impacts on company disclosure. He reported that companies with higher levels of toxic releases had more extensive environmental disclosure in their 10-K reports. Consequently, he concluded that the expected negative relationship between environmental performance and environmental disclosure was supported. The findings are consistent with Cho and Patten (2007) who contended that poorer environmental performance leads toward a higher level of environmental disclosure.

A review of the literature suggested that companies with poor, rather than good, environmental performance disclose more environmental information. This is viewed as an attempt by these companies to demonstrate to the readers, their environmental concerns. In addition, the disclosure of more environmental information provides an opportunity for the companies to tell their own side of the story in the environmental debate (Cerin, 2002). In the context of this study, companies are classified as either environmentally sensitive, or environmentally non-sensitive[19]. As the classification implies, environmentally sensitive companies are those involved in activities regarded as harmful to the natural environment, such as oil and gas, tobacco, and aerospace, to name a few. By contrast, companies whose activities are regarded as not harmful to the natural environment, such as banking, retail and media to name a few, are classified as environmentally non-sensitive companies. That said, it is the environmentally sensitive companies, rather than the environmentally non-sensitive companies, that are expected to disclose more environmental information, be it in annual reports, or in stand-alone reports. That said, the increase in the number of report pages, as well as the number of presentation formats, is expected to be more for the environmentally sensitive companies rather than for the environmentally non-sensitive companies. Thus, the related hypotheses to be tested in this study are as follows:

H_{17a} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more pages of annual reports.*

H_{17b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more pages of stand-alone reports.*

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[19] The current study follows the classification suggested in Neu et al., 1998; Wilmshurst and Frost, 2000; Raar, 2002, 2007; Gao et al., 2005; Aerts and Cormier, 2006; Jose and Lee, 2007; Cho and Patten, 2007; Clarkson et al., 2008; and Brammer and Pavelin, 2008

H_{18a} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more photographs in annual reports.*

H_{18b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more photographs in stand-alone reports.*

H_{19a} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more graphs in annual reports.*

H_{19b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more graphs in stand-alone reports.*

H_{20a} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more tables in annual reports.*

H_{20b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more tables in stand-alone reports.*

3.3.4 Listing status

There is no documentation of prior studies that investigated the influence of listing on the FTSE4Good index for information disclosure suggesting that a gap exists in the related literature. The FTSE launched the FTSE4Good index in July 2001 with the aim of allowing investors to gain exposure to so-called ethical companies, while still earning a competitive return. To achieve this aim, the FTSE4Good indices were designed to identify the current approach to corporate social responsibility and investment, measure company compliance, and report on the performance of the constituent companies. In order to be listed, a company must already be listed on one of the four share indices, i.e. the FTSE All Share Index, the FTSE All-World Europe Index, the FTSE US Index, or the FTSE All-World Developed Index (Collison et al., 2008).

The FTSE4Good Advisory Committee assesses the eligibility of a company on the information that the company supplies to the Ethical Investment Research Service (EIRIS), as well as on the EIRIS's own research into the company, before making a decision whether to allow inclusion of the company on the FTSE4Good index. The information that the committee are interested in is mainly the performance of the company in five areas of interest. These include, environmental sustainability, relationships with stakeholders, attitudes to human rights, supply chain labour standards, and the countering of bribery (Collison et al., 2008).

Companies involved in producing tobacco and nuclear-related activities are not considered for listing on the FTSE4Good Index. The reason for the exclusion of these companies is that their activities are not in compliance with the function of the Index, namely, to encourage progress towards greater corporate social responsibility in the business world (Cartridge and MacKenzie, 2001). In a way, the listing status mirrors the activity of the companies in the sense that those listed on the FTSE4Good index are mostly regarded as environmentally non-sensitive companies, while those not listed on FTSE4Good index are mostly regarded as environmentally sensitive companies. The influence of listing status on presentational aspects of annual reports and stand-alone reports is expected to mirror the phenomena related to the influence of activity. Therefore, it is the non-FTSE4Good companies, rather than FTSE4Good companies, that are expected to disclose more information leading towards the increase in the number of report pages, as well as the number of presentation formats. Thus, related hypotheses to be tested in this study are as follows:

H_{21a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more pages of annual reports.*

H_{21b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more pages of stand-alone reports.*

H_{22a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more photographs in annual reports.*

H_{22b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more photographs in stand-alone reports.*

H_{23a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more graphs in annual reports.*

H_{23b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more graphs in stand-alone reports.*

H_{24a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more tables in annual reports.*

H_{24b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more tables in stand-alone reports.*

3.4 Impression management

The issue of impression management in annual reports has been well documented (see Merkl-Davis and Brennan, 2007 for an exhaustive example of prior studies on impression management in corporate annual reports). By contrast, the current study is not aware of any study prior to this study that examined the presence of impression management in stand-alone reports, which means that a gap exists in the related literature. Indeed, the presence of presentation management in audited annual reports gives the impression that a similar exercise could also be conducted

in the unaudited documents, such as stand-alone reports. Bebbington et al. (2008) posited that corporate reporting and reputation are inter-related. In the same light, Robertson and Nicholson (1996) argued that corporate disclosure (including environmental disclosure) could be seen as an attempt by the management to influence opinion in building a good reputation. Thus, the potential exploitation of stand-alone reports for impression management purposes cannot be undermined. Although there are as many as seven impression management strategies (Merkl-Davies and Brennan, 2007), only three of these strategies are relevant to the current study, namely, (1) thematic manipulation, (2) visual and structural manipulation, and (3) performance comparison.

3.4.1 Thematic manipulation

This form of impression management strategy emphasises on positive words and themes in an attempts to portray a company in a more favourable manner than is warranted by the bare facts (Merkl-Davis and Brennan, 2007). Thematic manipulation in the context of this study involves a situation where the management presents more good news, in a ploy designed to outweigh the number of incidents involving bad news, in the form of text.

Smith and Taffler (1992) conducted a systematic analysis of the relationship between narrative complexity and alternative measures of performance, for a matched sample of failing/non-failing companies across common industries. They reported that poor readability is strongly associated with poor performance, and ease of readability with relative financial success. The implication, according to them, is that companies actively signal good news while obscuring, perhaps deliberately, messages that convey bad news.

Tauringana and Chong (2004) investigated the correlation between the types of news in the chairman's statements, the operating and financial reviews, and the directors' reports in the annual reports of 179 UK listed companies for 2001. They reported that there is significantly more good news in the narrative sections than in the statutory accounts. Conversely, there is significantly less bad news in the narrative sections than in the statutory accounts.

Balata and Breton (2005) investigated the relationship between the president's letter and the financial statements in the annual reports of 30 US companies from 1993 to 1998. They reported the presence of a certain level of manipulation in the narrative sections.

Clatworthy and Jones (2006) studied the chairman's statements in the 1995 and 1996 annual reports of the top 50, and bottom 50, of non-financial UK listed companies. They reported that the chairman's narratives of profitable companies mentioned key financial indicators more, had more quantitative and personal references, used fewer passive sentences, and emphasised the future less than those of their unprofitable business counterparts. These findings, according to Clatworthy and Jones (2006), provided evidence that companies use narrative disclosure, especially the chairman's statement, to report news in a manner consistent with impression management. They also contended that the managers' propensity to associate themselves with the company's financial results is associated with the company's underlying performance. Further, they reported that unprofitable companies focus more on the future, rather than on past performance, in an attempt to distract attention away from poor performance. Other related studies on thematic manipulation are presented in Appendix A.

Generally, a review of the literature suggested that companies present more good news rather than bad news. Consistent with the notion of impression management, management is more likely to portray a more favourable image of the company than is warranted, by over-playing the good news and under-playing the bad news (Clatworthy and Jones, 2006). Thus, a related hypothesis to be tested in this study is:

H_{25} – *There are more texts with good news rather than bad news presented in stand-alone reports.*

3.4.2 Performance comparison

This impression management strategy involves choosing benchmarks to boost good performance by selectively comparing performance indicators against a base year to the extent that the performance for the current year appears as favourable (Merkl-Davis and Brennan, 2007). This strategy in the context of the current study is viewed to potentially affected graphs and tables.

3.4.2.1 Graphs

Studies on the presentation of good performance versus bad performance in graphs mostly involved graphs presented in the annual reports. Management are reported to be selective in presenting information related to a company's performance in the form of graphs. This inevitably results in an incomplete view of information disclosure. Strong evidence of selectivity has been reported in studies on graphs conducted in the US, UK and Australia.

Beattie and Jones (1992) reported that graphs of key financial variables (sales, profit, earnings per share (EPS), and dividends per share (DPS)) are significantly more likely to be included in the annual reports of UK companies with good, rather than bad, performance. In their study, they classified performance as good or bad on the

basis of directional change in both EPS (a general performance indicator), and the specific financial variables being tested.

In their later study comparing US and UK companies, Beattie and Jones (1997) reported selectivity in graph usage – with the UK exhibiting greater selectivity. Likewise, the study by Beattie and Jones (1999) involving Australian companies presented statistical evidence to show that graphs are included in annual reports when the companies produced a favourable, rather than unfavourable, view of corporate performance. In particular, the presence of at least one of the four key financial variables (KFVs) graphs (i.e., one out of sales, profit, EPS, or DPS) are more strongly associated with the respective five-year profit and sales trends than with the respective one-year performance trend of sales, profit and EPS.

Another Australian study by Mather et al. (1996) detected no significant relationships between the inclusions of graphs and company performance, in terms of either their whole sample, or for the top 50 companies. But for the next 100 ranked companies, they did find some significant relationships for 5 out of 9 tests. Their findings, however, need to be read with caution for they neither used EPS as the directional performance indicator, nor measured performance over a 5-year period, as adopted by Beattie and Jones (1992). Green et al. (1992) replicated Beattie and Jones (1992) by analysing the annual reports of 117 Irish semi-state sector and public limited companies and reported to have discovered evidence of selectivity.

Beattie et al. (2008) examined graphs in the annual reports of large UK listed companies from 1965 to 2004. They discovered the presence of selectivity, graph measurement distortion, and manipulation of the length of the time series of graphs. They reported a decline in the number of companies using the 5-year norm for length of time series, from 72% in 1989, to 63% in 2004. The graphs with less than a 5-year

period of comparison, according to them, present a less favourable trend. By contrast, graphs with a 5-year period of comparison present a more favourable trend. A review of the literature suggested that the management is more likely to present graphs that convey good news, rather than bad news, related to their performance. Thus, a related hypothesis to be tested in this study is:

H_{26} – *There are more graphs with good performance rather than bad performance presented in stand-alone reports.*

3.4.2.2 Tables

There is no study prior to this study that examined the presentation of good performance versus bad performance in tables[20], thus a gap exists in the related literature. Overall, the information presentation in stand-alone reports is at the discretion of the reporters. In that case, the management are expected to use tables to present good performance rather than bad performance, in an attempt to portray a more favourable impression of the performance of the company than is warranted. Thus, a related hypothesis to be tested in this study is:

H_{27} – *There are more tables with good performance rather than bad performance presented in stand-alone reports.*

3.4.3 Visual and structural manipulation

This impression management strategy involves the manipulation of visual and structural effects in which information is presented in such a way as to produce a more favourable impression than is warranted. This strategy in the context of the current study is viewed to potentially affected photographs and graphs.

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[20] Data that conveys a good performance is favourable while data that conveys a bad performance is unfavourable. For example, the increase in the use of energy is unfavourable news, whereas the decrease in the amount of energy used is good or favourable news.

3.4.3.1 Photographs

Photographs are capable of distracting or misleading viewers (Lewis, 1984; Preston et al., 1996), thus they may potentially be used as a vehicle for impression management (Wilmshurst and Frost, 2000). However, the use of photographs for impression management has received limited attention (Beattie et al., 2008). This is true especially when no objective measurement of impression management involving photographs has been established. That said, Bargh (2002) contended that it is the viewers who make their own interpretations of visual images, in a number of ways.

Previous studies that examined the favourable images in photographs include Bougen (1994), Friedman and Lyne (2001) and Ewing et al. (2001). referring to the good and active life-style of accountants in photographs. By contrast, Robert (1957), Stacey (1958), and Cory (1992) referred to dull, sober and expressionless images to highlight the opposite life-style of accountants. The current study adopted a general, less radical, but rather naïve interpretative approach to classifying the favourable-unfavourable aspects of visual images. Related to this, images of humans at a workplace are considered as favourable, while images of humans not at a workplace are considered as unfavourable. The photographic theme is centred on a workplace because a review of the literature suggested that photographs in annual reports are featured mainly, the workplace (see David, 2001; Benschop and Meihuizen, 2002; De Groot et al., 2006). Thus, a related hypothesis to be tested in this study is:

H_{28a} – *Overall, there are more photographs of humans at a workplace rather than photographs of humans not at a workplace presented in annual reports*

H_{28b} – *Overall, there are more photographs of humans at a workplace rather than photographs of humans not at a workplace presented in stand-alone reports*

3.4.3.2 Graphs

The structural and visual presentations of graphs have the potential to be manipulated. In the context of this study, the structural manipulation of graphs involves presenting graphs that are not appropriately constructed according to the principles of graphical design and construction. This includes *inter alia*, the presentation of distorted graphs, graphs with non-zero axis, broken axis, non-arithmetic scales, non-scale axis, negative values omitted/truncated, and multiple scales (Beattie et al., 2008). Meanwhile, the visual manipulation of graphs in the context of this study involves the use of visual effects to highlight selective information.

3.4.3.2.1 Distorted graphs

This study replicated Beattie and Jones (1999) in identifying the presentation distortion, namely, a situation where a graph is not appropriately constructed to the extent that its graph discrepancy index (GDI) is less than -5 or more than 5.

In a related study, Steinbart (1989) examined the measurement distortion in graphs of key financial variables (identified as sales, profits, and dividends) presented in annual reports of 319 US companies from the Fortune 500. He measured the GDI and reported that on average, graphs of these key variables exaggerated the magnitude of change by around 11%. An absolute distortion of more than 10% was also found in approximately 26% of the graphs of key financial variables in the sample, with overstatement and understatement being equally prevalent.

Beattie and Jones (1992) reported that 30% of the graphs of key financial variables (which included EPS, as well as the three variables used in Steinbart, 1989) for UK companies were distorted. Beattie and Jones (1992) also detected that favourable distortion (overstatement of a positive trend or understatement of a negative trend) is

significantly more likely than unfavourable distortion (understatement of a positive trend, or overstatement of a negative trend). In their other study, Beattie and Jones (1997) compared the graph reporting practices of 176 leading US and UK companies that confirmed the earlier findings on measurement distortion reported in Beattie and Jones (1992) and those of Steinbart (1989).

In the Australian context, Mather et al. (1996), who replicated Beattie and Jones (1992), obtained results that were consistent with previous US and UK findings as reported in Steinbart (1989) and Beattie and Jones (1992). In other words, distorted graphs of any of the key financial variables are significantly more likely to present performance favourably rather than unfavourably. In particular, Mather et al. (1996) detected 29.7% of graphs of key financial variables to be distorted (mean distortion +16.4% GDI), with exaggeration being very slightly more prevalent than understatement.

Later, in another study on the top 100 companies listed on the Australian Stock Exchange for 1991, Beattie and Jones (1999) discovered material measurement distortion in 34% of all KFV graphs, where favourable rather than unfavourable distortions predominated in terms of both the absolute number of distortions, and the magnitude of distortion. That is, out of 146 KFV graphs, they discovered 50 instances of measurement distortion: 31 favourable and 19 unfavourable. They also claimed that there is no certainty as to whether the distortions found are due to the exuberance and statistical naivety of designers, or a deliberate attempt at impression management. Green et al. (1992) replicated Beattie and Jones (1992) for companies in Ireland, and reported finding evidence of measurement distortion. However, they failed to detect any systematic favourable measurement bias.

Beattie et al. (2008) examined the presentation of graphs in the annual reports of large UK listed companies from 1965 to 2004. They reported an increase in the presentation of distorted graphs (with a GDI index outside the range -5 and +5) from 30% out of 465 graphs in 1989, to 60% out of 156 graphs in 2004. The incidence of material distortion in key financial graphs, according to them, increased from 20% in 1989, to 49% in 2004. Also, they reported that, by 2004, the obvious, identifiable causes of distortion, namely the use of a nonzero or broken vertical axis, or a non-arithmetic scale, or a negative value truncated, have disappeared. However, they reported that the other causes of distortion that had not been detected in previous studies namely, no scale stated or the individual value represented by the graphs were not stated, were prevalent. Other related studies on thematic manipulation are presented in Appendix B.

A review of the literature suggested that the improper construction of graphs in annual reports[21] is widespread. However, the improper construction of graphs in stand-alone reports is found to be relatively unstudied. Based on Impression Management, the management has an incentive to present the performance of the companies as well as their own performance, in the best possible light. In this vein, distorted graphs are presented so as to give a more favourable portrayal of the company than is warranted. Thus, a related hypothesis to be tested in this study is:

H_{29} – *There are distorted graphs presented in stand-alone reports.*

3.4.3.2.2 Visual manipulation

There is a lack of studies on the used of visual effects in graphs. Managers manipulated the visual aspects of graphs by presenting inter alia, a 3-dimensional

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[21] Beattie and Jones (1999) referred to the presentation of an improper construction of a graph as presentation management

graph, and graphs with a colour scheme to highlight selective information (Beattie et al., 2008). Related to this, Robinson (1998) and Howe and Purves (2005) suggested that decision-makers who view three-dimensional graphs might also make biased decisions. Also, by manipulating the visual aspects of graphs, managers distracted the attention of readers from other facts.

In a related study, Benbasat and Dexter (1986) conducted a laboratory experiment to assess the influence of colour and information presentation differences on user perceptions and decision-making, under varying time constraints. During the experiment, they evaluated three different information presentations, namely tables, graphs, and combined tables-graphs. They reported that, *inter alia*, colour led to improvements in decision-making, and this was especially pronounced when high time constraints were present. Thus, a related hypothesis to be tested in this study is:

H_{30} – *There are graphs with special effects presented in stand-alone reports.*

3.5 Summary

This chapter presents prior studies related to the issues under investigation involving annual reports and stand-alone reports. Generally, previous studies related to information presentation akin to the current study are presented. Altogether, there are five aspects of information presentation regarded as central in the current study. The first is the number of report pages. The second is the presentation of photographs, graphs and tables. The third is the attributes of photographs in annual reports and stand-alone reports. The fourth is the influence of company characteristics on information disclosure. The fifth is the presentation management, involving photographs, graphs, tables, and texts. These prior studies paved the way in researching the related phenomena, and coupled with the two theories adopted by the current study – Signalling Theory and Impression Management – assisted in the

development of related hypotheses for the current study. The following chapter,

Chapter 4 *infra*, presents the methodological aspects in conducting this research.

Chapter 4 – Research methodology

4.0 Introduction

Research methodology explains the actual process of conducting a research. Research methodology according to Guba (1990) refers to how the researcher should go about finding the knowledge, while Blaikie (2000) refers to it as 'techniques or procedures used to collate and analyse data'. This technique of conducting a research is guided by a research paradigm through the assumptions underpinning the related paradigm as discussed in Chapter 2 *supra*. The current study embraces the positivist approach for investigating issues related to this specific area of research, thus being consistent with the previous studies of the same nature (see Beattie and Jones, 1992, 1993, 1997, 2000, 2001; Smith and Taffler, 2000; Clatworthy and Jones, 2003). As Patton (1988) posited, the research design and implementation decisions are made according to what methods best meet the practical demands of a particular enquiry. From a positivist perspective, empirical regularities imply causal laws that are then used to explain a social phenomenon. As such, the cycle of enquiry involves a deductive approach; making inferences; using statistical techniques; and making predictions (Wass and Wells, 1994). Input from the researcher remains at a minimum with regard to data analysis as well as the interpretation of results. Related to data collection, techniques available to the positivist include questionnaires, structured interviews and the use of secondary data (Guba and Lincoln, 1994; Hussey and Hussey, 1997).

The remainder of this chapter is organised as follows. The next section, Section 4.1, discusses the sample selection. The following section, Section 4.2, discusses the collection of annual reports and stand-alone reports. Then, the examination of the

content of annual reports and stand-alone reports is discussed in Section 4.3. The next section, Section 4.4 discusses the data analyses employed in this study. A summary in Section 4.5 ends this chapter.

4.1 The sample selection

A sample is a smaller collection of units acting as representatives of a whole population, and used to determine truths about that population (Henry, 1990; Field, 2005). A research sample is selected using a sampling technique. The sampling technique is important for two reasons. Firstly, to increase the validity of data, and secondly, to ensure the sample constitutes a true representation of a population. Hence, a valid sampling technique reduces the amount of data to be collected, but allows a conclusion to be drawn for the whole population (Saunders et al., 2007). Saunders et al. (2007) posited that there are two sampling techniques, namely probability sampling, and non-probability sampling. Probability sampling, according to them, is useful for survey-based research. The researcher is able to subsequently make a statistical inference about the population from the completed questionnaires, and to answer the research question. Non-probability sampling techniques, according to them, are suitable for qualitative research. According to Saunders et al. (2007), there are five non-probability sampling techniques – quota, snowball, self-selection, convenience, and purposive sampling.

Quota sampling is a technique where certain subgroups of units are represented in the sample. The proportion of these subgroups is equivalent to those in the population. Snowball sampling is a technique where participants have a connection of some sort with each other. These connections are varied and include, *inter alia*, relatives, friends, colleagues, neighbours, and members of a community. Accordingly, the sample expands as the current participant introduced or suggested the next prospective participants for the research. This continuous process, similar to

a scheme of 'member get member', comes to an end as and when the researcher so wishes. Self-selection sampling is a technique where participants voluntarily offer themselves to participate in the research. Related to this, the prospective participants respond to an advertised call for participants in a research project, via various communication channels. Convenience sampling involves a situation where participants for the research are selected on a convenient basis for some specific reasons. Meanwhile, purposive sampling is a sampling technique where participants are selected because of some pre-existing characteristic.

The current study adopts purposive sampling because the selection of the participants is subject to compliance with two predetermined selection criteria. Firstly, the companies have to be listed on the FTSE 100 share index as at 31st December, 2005. This criterion is to ensure that the selected company is large in terms of size[22]. Secondly, the companies had produced stand-alone reports in the form of a hardcopy for a minimum period of three consecutive years ended 2005. This second criterion was established to ensure that the longitudinal nature of this study involved the same set of companies. This second selection criterion is viewed as critical as the current study also investigates the influence of company characteristics on presentation formats presented in annual reports and stand-alone reports. The adoption of purposive sampling technique in this study is consistent with the previous studies of the same nature. Related to this, Johnston and Smith (2001) employed a purposive sampling technique for their study on the environmental reports of water service companies in England and Wales. They stated that the reason for the employment of the technique was because the water service companies were companies that had produced stand-alone environmental reports.

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[22] In the context of this study, market capitalisation is used as a proxy for size (see also Hasseldine et al., 2005)

Generally, the population for this study is large companies in the UK that produced stand-alone reports in the form of hardcopy for 2000 – 2005, inclusive. As the Global Reporting Initiatives (GRI) introduced its maiden guidelines for environmental reporting in 1999, it is viewed that rationally, companies would began to use the GRI guidelines for their year 2000 reports[23], hence the selection of year 2000 as the beginning of this longitudinal study. The investigation period was chosen to end in 2005 because, in 2006, the UK Company Law had been amended to allow companies to utilise fully the availability of modern communication technology, and that includes, disclosing their environmental information on company websites[24].

The preceding discussion stated that one of the selection criteria for inclusion in the sample is the production of stand-alone reports in the form of a hardcopy for a minimum of three consecutive years ended 2005. This specific rule concerning the hardcopy reports is established for two reasons. Firstly, the hardcopy is required to ensure that the content of these stand-alone reports remains unchanged. It is for this reason that the environmental disclosure on the website was excluded, as their content is subject to changes over time[25]. Generally, companies update their webpage from time to time to report on their activities for the current reporting year. Accordingly, this 'updated' version will replace the 'outdated' version of the online-published report. As the nature of the current study is longitudinal, and covers the period from 2000–2005 inclusive, the printed version of the report appears to be the only sensible option. This is because the data collection process for this study started

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[23] The researcher made no attempt to investigate the correctness of this assumption due to a limitation of time.

[24] The researcher assumes that the amendment to the company law will results in a reduction in the number of firms producing stand-alone reports in the form of hardcopy. Once again, the researcher made no attempt to investigate the correctness of the assumption.

[25] A report published on the Internet and a downloadable file from the Internet refers to two different situations. The former refers to the content of a webpage, which is subject to change. The latter refers to a file that can be downloaded from the website into a personal computer using an Internet connection. The content of this file is normally the same as the one published in the form of a hardcopy. There is also a possibility that the version of the information disclosed on the web and the one presented in the form of a hardcopy are the same. For example, Cormier and Magnan (2004) reported an extensive overlap between the printed version and the web version of environmental disclosures.

only in 2006. Secondly, the hardcopy of the report is required as the size of photographs and graphs are to be measured manually. A minimum of three consecutive productions of stand-alone reports is imposed in an attempt to observe any unusual events related to the presentation of photographs, graphs, and tables in the annual reports and stand-alone reports of the selected companies.

Large UK companies are chosen for five reasons. Firstly, large companies are more likely to disclose environmental information as compared to medium and small companies (Gray et al, 1995b). Secondly, size is found to have an influence on social reporting[26] (see Trotman and Bradley, 1981; Guthrie and Parker, 1990; Patten, 1991; Hackston and Milne, 1996; Adams et al, 1998). Thirdly, larger companies have higher visibility and thus it is expected that any trends and switch points would be more pronounced in these larger companies as compared to their smaller business counterparts. Fourthly, large companies are perceived to provide more extensive and innovative disclosure (Murray et al., 2006). Lastly, previous studies on corporate disclosure mostly use the largest companies as their sample, hence making it possible to compare the findings of this study with those of previous studies (Gray et al., 1995b). Based on these five reasons, all FTSE 100 and FTSE 250 listed companies that are regarded as representing the top companies in the UK are selected to form the sample for this study.

A letter specifying this researcher's intention to obtain the respective annual reports and stand-alone reports in the form of a hardcopy for the period of 2000-2005 inclusive was sent to each and every company listed on the FTSE 100 and FTSE 250 share indexes. A sample of the letter is presented herein in Appendix C. The letter begins by introducing this researcher, followed by some information related to the nature of the research contemplated. Next, the companies were asked if they had

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[26] The amount of disclosures is greater in reports of larger companies as compared to smaller companies.

produced stand-alone reports for the years from 2000–2005, inclusive. If the answer was 'yes' then this researcher sought the co-operation of the respective companies to send a hardcopy of their stand-alone reports, and annual reports of the same reporting years as the stand-alone reports, to a specified correspondence address. Related to this, if, for example, a company produced stand-alone reports for the years 2002–2005, then this researcher requested these reports as well as the annual reports for 2002–2005 to be sent to the researcher's correspondence address. The letter ends with a thank you note for the co-operation rendered by the respective companies. Consequently, several companies, mostly those listed on the FTSE100 index, responded favourably to this researcher's request, while others kept silent about their reasons for not participating. Thus, reasons for a non-response, except for the selected few who informed the researcher in writing, are unknown[27].

The researcher sent out a second letter to remind those companies that did not respond to the first letter that had been sent to them. A sample of this letter is presented in Appendix D. The content of the letter is identical to that of the first letter to induce them to an immediate response. As the responses from FTSE 250 companies to the first letter was extremely low, the second letter was sent only to FTSE 100 listed companies. This also means that all companies listed on FTSE 250 share index are excluded from the sample to avoid future problems involving data analysis, specifically in relation to the influence of the company characteristics on the use of presentation formats in annual reports and stand-alone reports.

Table 4.1 presents the final sample for this study, consisting of 46 FTSE 100 companies. The total number of companies in the sample is arguably greater than the total of sample companies in the previous study of Lee (1994), and Rondinelli

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[27] Obviously, one of the possible reasons is that the company did not produce the stand-alone reports. Related to this, Murray et al. (2006) reported that more FTSE 100 firms produced stand-alone reports as compared to firms listed on the FTSE 250.

and Berry (2000), with 25 companies and 38 companies, respectively. Meanwhile the longitudinal study of Campbell et al. (2009) on photographs involved only 14 UK companies listed on the FTSE 100.

Table 4.1 A list of selected companies in the sample

Nos	Company Name (plc)
1	Alliance & Leicester
2	Anglo American
3	AstraZeneca
4	Aviva
5	Barclays
6	BG Group
7	BHP Billiton
8	BP
9	British American Tobacco
10	British Land Company
11	British Sky Broadcasting Group
12	Cairn Energy
13	Centrica
14	Diageo
15	Friends Provident Group
16	GUS
17	Hammerson
18	HBOS
19	HSBC Holdings
20	Imperial Chemical Industries
21	Imperial Tobacco Group
22	Liberty
23	Lloyds TSB Group
24	Marks & Spencer Group
25	Northern Rock
26	O2
27	Prudential
28	Reckitt
29	RioTinto
30	Royal & Sun Alliance Insurance Group
32	Royal Bank of Scotland Group
33	Royal Dutch Shell
34	SABMiller
35	Sainsbury (J)
36	Scottish & Newcastle
37	Scottish & Southern Energy
38	Severn Trent
39	Shire
40	Smiths Group
41	Standard Chartered
42	Tesco
43	Unilever
44	Vodafone Group
45	WPP
46	Xstrata

The rest of the constituent companies of the FTSE 100 share index in 2005 were excluded from the sample due to various reasons that include, *inter alia*, insufficient number of stand-alone reports produced (40 companies), Internet reporting only (12 companies), inappropriate reports been provided[28] (1 company) and declined to participate (1 company).

Table 4.2 presents the non-constituent status of selected companies on FTSE 100 share index. Indeed, the selected companies are those listed on FTSE 100 share index as at 31 December 2005 who produced stand-alone reports in the form of a hardcopy, going backwards up to 2000. As such, there are cases where the selected companies in the sample are not the FTSE 100 constituent companies during the period under investigation. This is due to the process of promoting and demoting of companies from the FTSE 250 share index into the FTSE 100 share index, and vice-versa[29], hence the changes in the constituents of the FTSE 100 share index.

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[28] The company, rather than provide its own reports, produced the stand-alone reports of their subsidiary companies

[29] Murray and Gray (2006) faced a similar problem. FTSE 100 is generally an index comprising the top 100 listed companies in the UK based on market capitalisation. The concept is identical to the football leagues in the UK, which involved the relegation as well as the promotion of football clubs into Premiership, Championship, League One, and so on. As such, there are cases where companies in the sample are not listed on the FTSE 100 Index in a particular year due to not being 'big enough'. In order to avoid an incorrect classification of FTSE 100 companies, a full list of FTSE 100 constituent companies for 2000-2005 was obtained from the FTSE. The date for the list is standardised at 31 December of the year in question.

Table 4.2 The non-constituent status in the FTSE100 index of the selected companies

Nos	Co_Name	2000	2001	2002	2003	2004	2005
1	Alliance & Leicester						
2	Anglo American						
3	AstraZeneca						
4	Aviva						
5	Barclays						
6	BG Group						
7	BHP Billiton						
8	BP						
9	British American Tobacco						
10	British Land	/					
11	British Sky Broadcasting						
12	Cairn	/	/	/	/		
13	Centrica						
14	Diageo						
15	Friends Provident	/					
16	GUS						
17	Hammerson	/	/	/	/	/	
18	HBOS	/					
19	HSBC						
20	ICI						
21	ImperialTobacco						
22	Liberty	/	/				
23	Lloyds TSB						
24	M&S						
25	Northern Rock	/					
26	O2	/					
27	Prudential						
28	Reckitt						
29	RioTinto						
30	Royal & Sun Alliance Insurance						
32	Royal Bank of Scotland						
33	Royal Dutch Shell						
34	SABMiller						
35	Sainsbury						
36	Scottish & Newcastle	/					
37	Scottish & Southern Energy						
38	Severn Trent	/					
39	Shire						
40	Smiths Group						
41	Standard Chartered						
42	Tesco						
43	Unilever						
44	Vodafone Group						
45	WPP						
46	Xstrata	/	/				
	Total non-constituent companies	11	4	2	2	1	0

Notes: This table presents the selected companies in the sample. / indicates the non-constituent status of respective companies in the FTSE100 index in a particular year.

Table 4.3 presents detail of the FTSE 100 and non-FTSE 100 companies in the sample. Overall, 93% (256 cases) involved selected companies listed on the FTSE 100 share index. Only 7% (20 cases) involved selected companies not listed on FTSE 100 share index. Because of the data is non-normally distributed, a Mann-Whitney test was employed to examine the significant difference in the number of observations between these two categories – FTSE 100 companies, and non-FTSE 100 companies. The result shows that the difference between these two groups is significant ($p<0.01$), both for the individual year as well as overall. This implies that the sample is a significant representation of FTSE 100 companies.

Table 4.3 Summary of FTSE 100 and Non-FTSE 100 constituent companies in the sample

Cases	2000			2001			2002			2003			2004			2005			Total		
	Num	%	p	Num	%	p	Num	%	p	Num	%	p	Num	%	p	Num	%	p	Num	%	p
FTSE100	35	76.1	<0.01***	42	91.3	<0.01***	44	95.7	<0.01***	44	95.7	<0.01***	45	97.8	<0.01***	46	100.0	<0.01***	256	92.8	<0.01***
Non-FTSE100	11	23.9		4	8.7		2	4.3		2	4.3		1	2.2		0	0.0		20	7.2	
All	46	100.0		46	100.0		46	100.0		46	100.0		46	100.0		46	100.0		276	100.0	

Notes: This table presents the total cases of FTSE 100 listed and non-listed companies in the sample. In particular, the number of companies, percentages are shown. p is a significance value of the difference in the rankings of number of cases between FTSE100 and Non-FTSE100 companies. *** represents a significant value of p at the 0.01 level in a two-tailed Mann-Whitney test.
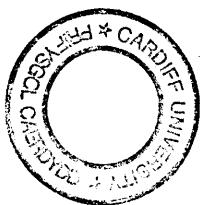
Table 4.4 presents the positions of selected companies in the ranking of FTSE 100, based on market capitalisation[30]. Overall, 70% of companies in the sample hold positions between 1st and 50th in the ranking, which implies that the selected companies are mostly large companies in terms of size.

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[30] Market capitalisation in the context of this study is used as a proxy for size

Table 4.4 Detail rankings of FTSE100 constituent companies in the sample

Ranking	2000			2001			2002			2003			2004			2005			Total		
	No	Acc %	Mean Mcap (£M)	No	Acc %	Mean Mcap (£M)	No	Acc %	Mean Mcap (£M)	No	Acc %	Mean Mcap (£M)	No	Acc %	Mean Mcap (£M)	No	Acc %	Mean Mcap (£M)	No	Acc %	Mean Mcap (£M)
1 - 10	8	22.9	74187	9	21.4	63735	9	20.5	48117	9	20.5	56718	9	20.0	58659	8	17.4	69896	52	20.3	61885
11 - 20	6	40.0	21243	7	38.1	17764	8	38.6	13562	8	38.6	15776	8	37.8	17570	9	37.0	24080	46	38.3	18332
21 - 30	5	54.3	12038	6	52.4	9416	7	54.5	8254	8	56.8	9277	9	57.8	10393	7	52.2	14601	42	54.7	10663
31 - 40	3	62.9	9007	4	61.9	7305	4	63.6	6076	5	68.2	6243	3	64.4	7464	6	65.2	8471	25	64.5	7428
41 - 50	2	68.6	6815	4	71.4	5610	3	70.5	4128	1	70.5	4518	1	66.7	5644	3	71.7	6382	14	69.9	5516
51 - 60	4	80.0	5433	2	76.2	4423	3	77.3	3767	2	75.0	3922	3	73.3	4556	1	73.9	5524	15	75.8	4604
61 - 70	1	82.9	4444	5	88.1	3719	3	84.1	2632	2	79.5	3186	6	86.7	3708	6	87.0	4127	23	84.8	3636
71 - 80	2	88.6	3824	0	88.1	0	3	90.9	2097	6	93.2	2750	4	95.6	2920	3	93.5	3692	18	91.8	3057
81 - 90	2	94.3	3544	4	97.6	2636	3	97.7	1741	3	100.0	2254	1	97.8	2257	2	97.8	3103	15	97.7	2589
91 - 100	2	100.0	2904	1	100.0	3103	1	100.0	1230	0	100.0	0	1	100.0	1732	1	100.0	2910	6	100.0	2376
All	35		14344	42		13079	44		9160	44		11627	45		11490	46		14279	256		12009

Notes: This table presents the FTSE100 ranking of selected companies based on market capitalisations. In particular, the total number of companies, accumulated percentages and mean market capitalisation are shown. A total of 11 companies in the sample is not a FTSE 100 companies in 2000; 4 companies in 2001; 2 companies each in 2002 and 2003; and 1 company in 2004.

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Table 4.5 presents the total representations for each of the 15 distinctive activities, namely, aerospace (2 companies), banking (8), chemicals (1), food and beverages (4), household products (1), insurance (4), and media (2). Also included are mining (4 companies), oil and gas (4), pharmaceuticals (2), real estate (3), retail (4), telecommunications (2), tobacco (2), and utilities (3). Overall, telecommunications, oil and gas, and banking are the top three sectors with larger companies in terms of size.

Table 4.5. Business activities of selected companies

Number	Sector name	No of firms	% of firms	Mcap mean (£M)
1	Telecommunications	2	4.3	61588
2	Oil and Gas	4	8.7	59252
3	Banking	8	17.4	31461
4	Pharmaceuticals	2	4.3	24211
5	Food/Beverages	4	8.7	17285
6	Mining	4	8.7	17121
7	Tobacco	2	4.3	11853
8	Media	2	4.3	10698
9	Retails	4	8.7	9498
10	Household	1	2.2	9156
11	Insurance	4	8.7	9123
12	Utilities	3	6.5	5733
13	Aerospace	2	4.3	3945
14	Chemicals	1	2.2	3114
15	Real Estate	3	6.5	2264
All		46	100.0	18420

Note: This table presents activities of selected companies in the sample. In particular, the number of companies for each activities, percentage of firms, and their mean of market capitalisations (Mcap mean) are presented. £M represents UK million pounds

4.2 The collection of annual reports and stand-alone reports

The stand-alone reports and annual reports of the same reporting years are collected using any of the following four methods. The first was directly from the company as discussed in the preceding section, section 4.1 *supra*. The second was from Cardiff University's library. The third was from the respective companies, but in the form of a portable document format (PDF) and delivered to the researcher via e-mail. The fourth was from the respective corporate websites. In the case where the reports were obtained from the website, the researcher used linking facilities offered by a website named 'northcote'[31]. 'northcote' acts as a gateway to an individual company's website in the quest for corporate reports on the Internet. Related to this, the corporate reports, in the form of PDF files, are downloaded and then saved in the researcher's computer hard-drive. The content of these files, excluding those pages with photographs and graphs, are then printed on an A4 size paper using a black and white laser printer. A deskjet colour printer was used to print the remaining pages with photographs, and graphs in colour[32].

Overall, a total of 446 reports were collected. This consists of an equal number of 223 each of stand-alone reports and annual reports (in Campbell et al., 2009, a total of 210 annual reports were analysed). Segregated on a yearly basis, a total of 38 reports for 2000 were successfully obtained from 19 companies, 56 reports (2001) from 28 companies, 76 reports (2002) from 38 companies and 92 reports each for 2003, 2004 and 2005 from 46 companies[33].

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[31] The website can be accessed at the following address, http://www.northcote.co.uk

[32] The researcher acknowledged the assistance rendered by the University of Cardiff in providing the colour printer to be used for this study.

[33] The total reports consist of an equal number of annual reports and stand-alone reports. For example in 2000, the total reports is 38 that means 19 out of this 38 are the stand-alone reports and another 19 reports are the annual reports

Presented in mathematical form,

Total stand-alone reports $= 19 + 28 + 38 + 46 + 46 + 46 = 223$ (I)

Total annual reports $= 19 + 28 + 38 + 46 + 46 + 46 = 223$ (II)

Total reports $= (I) + (II) = 223 + 223 = 446.$

Table 4.6 presents details of the stand-alone reports collected for this study. Overall, a total of 223 stand-alone reports for the period 2000–2005 were successfully obtained[34], and companies listed on FTSE 100 are the main contributors (96% of the total reports). Only 4% of the reports were collected from the non-FTSE 100 companies[35], with 68% of the reports being obtained from companies ranked in the top 50 positions, based on market capitalisation. This implies that larger companies are more likely to produce stand-alone reports, in the form of a hardcopy, as compared to their smaller business counterparts. That said, such a remark needs to be read with caution, as a printed stand-alone report is not the only option available to the companies in disseminating the environmental information[36].

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[34] The annual report of a company was obtained only if that company produced a stand-alone report within the stipulated study time period. Thus, an equivalent number or 223 annual reports are gathered accordingly.

[35] The sample is selected from the list of FTSE 100 companies as at 31 December, 2005. The method for the collection of reports works backward from 2005 down to 2000. This is due to the rule that requires the selected companies to produce stand-alone reports in the form of a hardcopy for three consecutive years. Considering that there are 20 cases where the selected companies are not constituents of FTSE 100 prior to 2005, there is a possibility that the reports are collected from the companies prior to their listing on FTSE 100 index.

[36] Other communication methods include, *inter alia*, a dedicated section in an annual report, online reporting, and advertisements.

Table 4.6 Stand-alone reports collected from selected companies

Nos	Co_Name	Activity	2000	2001	2002	2003	2004	2005	Total
1	Alliance & Leicester	Banks			/	/	/	/	4
2	Anglo American	Mining	/	/	/	/	/	/	6
3	AstraZeneca	Pharmaceuticals	/	/	/	/	/	/	6
4	Aviva	Insurance	/	/	/	/	/	/	6
5	Barclays	Banks	/	/	/	/	/	/	6
6	BG Group	Oil and Gas		/	/	/	/	/	5
7	BHP Billiton	Mining		/	/	/	/	/	5
8	BP	Oil and Gas	/	/	/	/	/	/	6
9	British American Tobacco	Tobacco		/	/	/	/	/	5
10	British Land	Real Estate			/	/	/	/	4
11	British Sky Broadcasting	Media			/	/	/	/	4
12	Cairn Energy	Oil and Gas	/	/	/	/	/	/	6
13	Centrica	Utilities				/	/	/	3
14	Diageo	Food/Beverages				/	/	/	3
15	Friends Provident	Insurance			/	/	/	/	4
16	GUS	Retails			/	/	/	/	4
17	Hammerson	Real Estate				/	/	/	3
18	HBOS	Banks				/	/	/	3
19	HSBC	Banks	/	/	/	/	/	/	6
20	ICI	Chemicals		/	/	/	/	/	5
21	ImperialTobacco	Tobacco		/	/	/	/	/	5
22	Liberty International	Real Estate			/	/	/	/	4
23	Lloyds TSB	Banks	/	/	/	/	/	/	6
24	M&S	Retails				/	/	/	3
25	Northern Rock	Banks	/	/	/	/	/	/	6
26	O2	Telecommunications				/	/	/	3
27	Prudential	Insurance				/	/	/	3
28	Reckitt Benckiser	Household/Leisure	/	/	/	/	/	/	6
29	RioTinto	Mining	/	/	/	/	/	/	6
30	Rolls Royce	Aerospace	/	/	/	/	/	/	6
31	Royal & Sun Alliance Insurance	Insurance	/	/	/	/	/	/	6
32	Royal Bank of Scotland	Banks			/	/	/	/	4
33	Royal Dutch Shell	Oil and Gas	/	/	/	/	/	/	6
34	SABMiller	Food/Beverages	/	/	/	/	/	/	6
35	Sainsbury	Retails	/	/	/	/	/	/	6
36	Scottish & Newcastle	Food/Beverages		/	/	/	/	/	5
37	Scottish & Southern Energy	Utilities		/	/	/	/	/	5
38	Severn Trent	Utilities	/	/	/	/	/	/	6
39	Shire Pharmaceutical	Pharmaceuticals				/	/	/	3
40	Smiths Group	Aerospace		/	/	/	/	/	5
41	Standard Chartered	Banks		/	/	/	/	/	5
42	Tesco	Retails			/	/	/	/	4
43	Unilever	Food/Beverages	/	/	/	/	/	/	6
44	Vodafone Group	Telecommunications	/	/	/	/	/	/	6
45	WPP	Media			/	/	/	/	4
46	Xstrata	Mining			/	/	/	/.	4
	All		19	28	38	46	46	46	223

Notes: This table presents selected companies that produced stand-alone reports. In particular, names of companies and their activities are presented. / indicates a stand-alone report is produced. An annual report for the same reporting year of the stand-alone report is obtained from the selected companies to give a total of 446 reports collected from the sample companies.

Table 4.7 presents the total number of annual reports and stand-alone reports obtained from the sample companies based on their activities. Firms involved in the banking sectors, oil and gas, mining, food and beverages, and insurance are the top five contributors of stand-alone reports covering more than 50% of the total stand-alone reports for this study.

Table 4.7 Annual reports and stand-alone reports collected based on activities

Nos	Activity	Total firms	2000 Total reports	2001 Total reports	2002 Total reports	2003 Total reports	2004 Total reports	2005 Total reports	Total
1	Banking	8	8	10	14	16	16	16	80
2	Oil & Gas	4	6	8	8	8	8	8	46
3	Mining	4	4	6	8	8	8	8	42
4	Food/Beverages	4	4	6	6	8	8	8	40
5	Insurance	4	4	4	6	8	8	8	38
6	Retails	4	2	2	6	8	8	8	34
7	Utilities	3	2	4	4	6	6	6	28
8	Aerospace	2	2	4	4	4	4	4	22
9	Real Estate	3	0	0	4	6	6	6	22
10	Tobacco	2	0	4	4	4	4	4	20
11	Telecommunications	2	2	2	2	4	4	4	18
12	Pharmaceutical	2	2	2	2	4	4	4	18
13	Media	2	0	0	4	4	4	4	16
14	Housing/Leisure	1	2	2	2	2	2	2	12
15	Chemicals	1	0	2	2	2	2	2	10
	All	46	38	56	76	92	92	92	446

Notes: This table presents total reports collected from selected companies based on activities. Total reports consist of an equal number of annual reports and stand-alone reports (for example, banking for 2000 consists of 4 annual reports and 4 stand-alone reports).

4.3 The collection of contents of annual reports and stand-alone reports

The current study employed a content analysis to collect the data from the stand-alone reports and annual reports, which is consistent with the previous studies of the same nature (for the collection of information in annual reports using the content analysis, see Zeghal and Ahmed, 1990; Hackston and Milne, 1996; Hasseldine et al., 2005, while for environmental reports, see Rondinelli and Berry, 2000; Montabon et al., 2007).

Content analysis, according to Weber (1988), is a method of codifying the text or content of a piece of writing into various groups or categories, using selected criteria. Krippendorff (1980, p.21) defines content analysis as 'a research technique for making replicable and valid inferences from data according to their context'. Generally, content analysis enables researchers to filter large amounts of data into fewer content categories (Montabon et al., 2007), allowing inferences to be made from a sample (Krippendorf, 1980; Weber, 1988). According to Krippendorff (1980, p.51),

> *"content analysis research is motivated by the search for techniques to infer from data what would be too costly, no longer possible, or too obstructive by the use of other techniques".*

Content analysis appears to fit the environmental reporting due to the lack of standardisation (Montabon et al., 2007). Also, prior studies on impression management, in particular, are found to have employed the same data collection method (see Beattie and Jones, 1992, 2000a, 2000b, 2002a, 2002b; Clatworthy and Jones, 2003; Beattie et al., 2008).

The collection of data for the current study involved a single coder[37]. However, the current study is not the first study to introduce the use of a single coder, as demonstrated in Jose and Lee (2007). The coded data regardless of the number of coders, according to Milne and Adler (1999), needs to comply with certain standards of reliability.

As Milne and Adler (1999, p.238) contended,

> "content analysts needs to demonstrate the reliability of their instruments and/or the reliability of the data collected using those instruments to permit replicable and valid inferences to be drawn from data derived from content analysis".

It is argued that the use of a single coder for the current study is able to increase the reliability of data as data collection procedures are standardised throughout the data collection process. In addition, the primary supervisor regularly reviewed the data that the researcher had collected by randomly comparing them with the original sources[38]. In all cases, he encountered no irregularities hence, the reliability of the data for this study. The availability of decision rules that were prepared prior to the commencement of the data collection process enhances the consistency of data (see also Milne and Adler, 1999). The decision rules are viewed as critical considering that a substantial amount of data is involved in this study. Also, the employment of decision rules in the current study is consistent with the previous studies that employed the same data collection approach (see for example Gray et al., 1995b; Hackston and Milne, 1996; Beattie et al., 2008).

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[37] This is an unavoidable consequence of doing a PhD. However, the data is regularly checked by the primary supervisor to ensure their correctness. This procedure was imposed to increase the reliability of the data collected for this study.

[38] The review by the primary supervisor was made randomly and covered all aspects of data that the researcher has collected. This included, for example, asking the researcher about the source of data that the researcher had collected, comparing the recorded data with one from the original source, personally conducting a measurement of the data from the original source if so required and subsequently comparing his own result with the result of the researcher. In short, the primary supervisor accordingly verified the data that the researcher has collected. This very same approach has been demonstrated in Jose and Lee (2007).

The data collected for this study is also argued to have met the stability level of reliability. Stability, according to Krippendorff (1980), is the lowest level of reliability test for content analysis. Stability means that the coding has to be the same each time, regardless of the number of times and whether or not there exists a gap between the events (Milne and Adler, 1999). In the context of this study, the use of a single coder and the presence of decisive rules helped to achieve the stability level of the data reliability. Also, the data that was captured by a single coder throughout the data collection process is argued to have gained an internal consistency[39] (Campbell, 2000).

The data collection process for this study is considerably labour-intensive, and was carried out manually. It involved collecting data related to (1) photographs, (2) graphs, (3) tables, (4) text, and (5) other related information about the sample companies. When it concerns the related information about the companies, the data includes market capitalisations, listing status[40], earnings before interest and tax, and business activities of the companies. All this data was collected from the three main sources of information namely (1) stand-alone reports, (2) annual reports, and (3) the Thomson One Banker database. All data collected from these sources were recorded in the same Microsoft Excel file, which is, in a way, a database in its own right.

Table 4.8 presents the number of incidents involving photographs, graphs, and tables presented collectively in annual reports and stand-alone reports. Overall, photographs, graphs, and tables are collectively presented in 83% (184 out of 223) of the annual reports, and 87% (195 out of 223) of the stand-alone reports.

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[39] Internal consistency (or internal reliability) is a way of measuring the consistency of data collections. If the data collection involved more than one coder, this internal consistency is measured normally using Cronbach's Alpha.
[40] This refers to whether or not the firms are listed on the FTSE4Good index

Table 4.8 Photographs, graphs and tables presented collectively in corporate reports

Num	2000 SAR	AR	2001 SAR	AR	2002 SAR	AR	2003 SAR	AR	2004 SAR	AR	2005 SAR	AR	Total SAR	p	AR	p
All 3	15	16	20	22	29	34	40	41	39	42	41	40	184	< 0.01***	195	< 0.01***
[%]	[79.1]	[84.2]	[71.4]	[78.6]	[76.3]	[89.5]	[87.0]	[89.1]	[84.8]	[91.3]	[89.1]	[87.0]	[82.5]		[87.4]	
< 3	4	3	8	6	9	4	6	5	7	4	5	6	39		28	
[%]	[20.9]	[15.8]	[28.6]	[21.4]	[23.7]	[10.5]	[13.0]	[10.9]	[15.2]	[8.7]	[10.9]	[13.0]	[17.9]		[12.6]	
Total	19	19	28	28	38	38	46	46	46	46	46	46	223		223	
[%]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]		[100.0]	

Notes: This table presents total reports that contain all 3 presentational formats (photographs, graphs and tables) and those contain less than three presentation formats. Figures in parenthesis is the percentage of reports. SAR=stand-alone reports, AR=annual reports. p is a significance value of difference in the rankings of the amount of report between those having three presentation formats and those having less than three presentation formats. *** represents a significant value of p at the 0.01 level in the two-tailed Mann-Whitney test.

4.3.1 Photographs

The current study captured data of all photographs presented in stand-alone reports and annual reports. Generally, data collection on photographs involved (1) the source, (2) the size, and (3) the content. The source of data on photographs is recorded as either stand-alone report or annual report (where 1=stand-alone reports, and 0=annual reports). The identification of the source is important, as photographs in stand-alone reports will be compared to those of annual reports to determine the similarities and differences in the attributes of photograph presentations between these two types of reports.

This study measures the size of all photographs presented in stand-alone reports and annual reports. This was done by placing a clear A4 size transparency with a grid of 20 horizontal lines of equal spacing and 5 vertical lines of equal spacing printed on it, over the photograph. An example of this grid is presented in Appendix E. The size of a photograph is measured based on how many squares were occupied by the photograph. In the context of this study, the unit of measurement is the percentage/portion of a page. This method of measuring size is demonstrated in Gray et al. (1995b) and replicated in Unerman (2000). However in both studies, the grid was made by 25 horizontal lines of equal spacing and 4 vertical lines of equal spacing to give a total of 100 small boxes of equal size. This researcher argues that pages in corporate reports are divided into two, or even three, columns in some cases. Thus, this researcher opines that the use of the amended grid (25 horizontal lines x 4 vertical lines), rather than that of the traditional grid (20 horizontal lines x 5 vertical lines) introduced in Gray et al. (1995b), is more appropriate. This is due to the presentation nature of photographs and graphs where the measurement of height

is normally greater than the measurement of width[41]. Albeit the amendment in the composition of the grid, it still requires a total of 100 small boxes to make up a page.

When it concerns the contents of a photograph, this study differs from previous studies conducted by Davison (2002) and de-Groot et al. (2006). Davison (2002) described the content of a photograph while De-Groot et al. (2006) assigned themes to images in photographs *per se.* In the current study, photograph images are separated between the foreground images and background images. The reason is simply because this researcher attempted to minimise the involvement, and thus avoid trying to produce an impressionistic description of a photograph that may differ from the perceptions of other. Taking, for example, a photograph of an old man sitting on a bench in a park, one might described the photograph as depicting a man having a rest after a long walk. Others however, might view this very same photograph as featuring a lonely man, a single male, or a homeless citizen, and so on.

By capturing the images in a photograph in terms of foreground and background images, a researcher can conduct a test, independent of the researcher's personal opinion, on the type and nature of the photograph. Where it concerns the type of a photograph, is it showing, for example, humans, animals, or is it just a panorama? When it concerns the nature of a photograph, has the shot been taken in a building, has it been taken outside the building, in the jungle, on top of a hill, and so on.

Overall, this researcher decided to capture the number of incidents, including detail of the photograph, and classified them into six different categories[42]. The first

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[41] This is because the height is divided into a total of 25 small boxes of equal size for the amended grid, rather than 24 small boxes as for the traditional grid.
[42] This information involving a photograph is captured in addition to the other information earlier collected, namely, the source of data – stand-alone report or annual reports – and the size of a photograph.

category is the image in the foreground. The second category is the image in the background. The third category involved whether a photograph is a portrait, or a non-portrait photograph[43] (1=portrait, 0=non-portrait). The fourth category is the nature of human images (0=unidentified, M=a single man, M1=men, F=a single woman, F1=women, C=a child, C1=children, MX=a combine group). The fifth category is the attire of humans in a photograph (1=formal, 2=casual, 3=wearing special costume). The sixth category is the size of a photograph[44].

There are six different themes that are used to describe both the foreground and the background images in photographs. The first theme is humans at a workplace (coded as 1). The second theme is humans not at a workplace (coded as 2). The third theme is a workplace[45] (coded as 3). The fourth theme is the nature (coded as 4), which refers to the natural environment, including, *inter alia*, a river, an ocean, trees, a mountain and the sky. The fifth theme is animals[46] (coded as 5). The final theme is others (coded as 6) that include, *inter alia*, a playground, a café, a bar, a car, a house and a street. All these plus other aspects of decisive rules related to the contents of a photograph are presented in Appendix F. Samples photographs of different photographs themes are presented in Plate 4.1–4.3.

In order to have a better understanding on the data collection involving photographs, the researcher provides below an illustrative example for the coding of a photograph of a man sitting on the bench in the park, *viz.*,

[1] Foreground = 2 (humans not at a workplace)

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[43] A portrait photograph refers to a close reference of a photograph to its subject that makes it appear to present the truth of the subject in the foreground (David, 2001)

[44] The unit of measurement is the portion of a page that is represented by the number of boxes being occupied by the photograph as a whole.

[45] Also included are equipments, tools, and machineries etc.

[46] A theme of 'animals' rather than 'other living creatures' is used for reasons of simplicity.

[2] Background = 4 (nature)

[3] Portrait   = 0 (non-portrait)

[4] Gender   = M (a single man)

[5] Attire   = 2 (casual[47])

Overall, this study examined a total of 11,818 photographs presented in stand-alone

reports (5,866 photographs) and annual reports (5,952 photographs) over the period

of six years (2000–2005 inclusive).

Plate 4.1   A photograph of 'children'
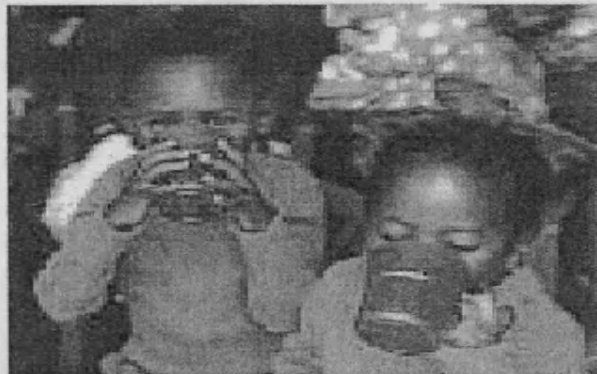
(Source: Xstrata's Health Safety Environment & Community Report 2002)

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[47] There are three categories of attire, namely formal, casual and special costumes. Special costumes refer to
special attire, for instance, the costume of Father Christmas, a clown, and so on.

Plate 4.2   A photograph of 'Others'

(Source: AstraZeneca's Corporate Responsibility Summary Report 2005)

Plate 4.3   A photograph of 'a nature'
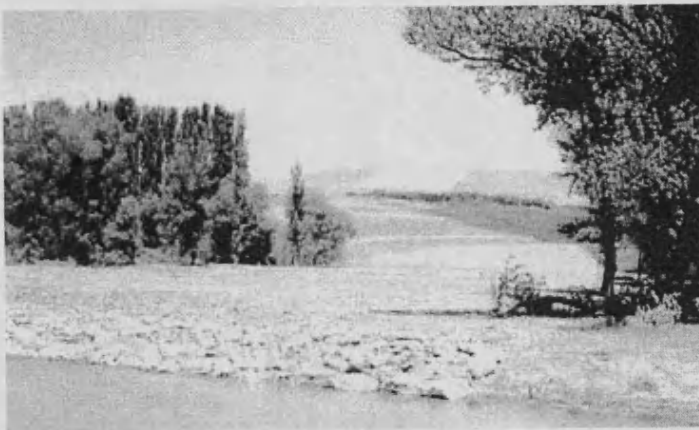
Source: BP's Sustainability Report 2005

4.3.2 Graphs

This study firstly captured the total number of graphs presented in stand-alone reports and annual reports. This information is important to investigate the trend in the number of graphs presented in stand-alone reports and annual reports over time. Further, all graphs presented in the stand-alone reports were analysed in a greater detail. The reason is to investigate the existence of graphs that were constructed, not according to the proper design and construction of graphs, hence indicating the presence of impression management (Beattie and Jones, 1992). This part of the investigation has resulted in the collection of ten additional information involving graphs presented in stand-alone reports. The first is the type of graph (B=bar, C=column, L=line, P=pie). The second is the title of a graph. The third is the identifiable causes of distortion, and the type of special effect in a graph (0=no special effects, 1=non-zero axis, 2=broken axis, 3=non-arithmetic scale, 4=non-scale axis, 5=negative values omitted/truncated, 6=multiple scale, 7=3-dimensional, 8=colour scheme, 9=others). The fourth is the length of a comparison period in years. The fifth is the outcome of an immediate comparison between the performance of the last reporting year and the performance of the previous year (0=unfavourable or 1=favourable)[48]. The sixth is the outcome of comparison over time between the performance of the last reporting year and the performance of the first year provided that the gap between these years is more than two (0=unfavourable or 1=favourable). The seventh is the GDI[49] for the immediate comparison, item fifth.

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[48] The information relating to the nature of performance comparison concerns only the bar and column types of graphs. Performance comparison involving other types of graph, such as pie and line graphs is not part of this study, hence are not analysed. In the case of the bar and column types of graphs, a higher column (or a longer bar) for the current reporting year, as compared to the previous reporting year is argued to demonstrate an improvement in the performance, with respect to good news, and vice versa. That said, these procedures in determining good news and bad news depends on what the column and bar represents. For example, in the case of energy consumption, a reduction in consumption for the current reporting year is represented by a lower height of column (or a shorter bar). This lower column (or a shorter bar), when compared with a higher column (or a longer bar) represented the consumption for the previous reporting year, demonstrating an improvement in performance, which reflects good news, and vice versa. Where it concerns the coding, an improving performance is recorded as favourable; a declining performance is recorded as unfavourable, while unchanged performance for it was not part of this study and thus, was not recorded.

[49] The calculation of the graph discrepancy index (GDI) involved column and bar types of graph only.

The eighth is the GDI for the comparison over time, item sixth. The ninth is the environmental theme (1=material, 2=energy, 3=water, 4=biodiversity, 5=emissions, effluents and waste, 6=products and services, 7=compliance, 8=transports, 9=overall). The last information captured on graphs presented in stand-alone reports is size.

When it concerns the graph discrepancy index (GDI), the current study adopted the same method of calculating the GDI as demonstrated in previous studies (see, for example, Beattie and Jones, 1992, 2002b; Courtis, 1997; Beattie et al., 2008). Related to this, the true data and the height of the column/bar of the base year are compared to the true data and the height of the column/bar of the comparison year. Detail on the calculation of GDI is presented as follows,

GDI = [(a/b)-1] x 100% where

a = percentage change (in centimetres) depicted in the graph, i.e.

$$\frac{[\text{height of last column} - \text{height of first column}]}{\text{height of first column}} \times 100\%$$

b = percentage of changes in the data.

As an example, if a company's profits rise from £10m to £20m over a five-year period, and this is portrayed in a column graph with the height of the column for year 1 (base year) being 5cm and the height of the column for year 5 (comparison year) being 10.5cm, then the GDI is calculated as follows;

GDI = [(110/100)-1] x 100% = 10%   where   a = [(10.5-5)/5] x 100% = 110,

and   b = [(20-10)/10] x 100% = 100

A GDI of zero percent indicates that the graph is properly constructed. In other words, there is no measurement distortion. Tufte (1983, p.57) contended that a GDI value greater than +5 percent or less than -5 percent implies that the graphs are materially distorted. A value higher than +5 demonstrates that the graph exaggerates the trend, and a value lower than -5 means the graph has understated the trend. Beattie and Jones (1992) argued that distortions in excess of 5% in either direction – positive or negative – indicate substantial distortion, far beyond minor inaccuracies in plotting. This study embraces the same strictures. Presented below in Plate 4.4 is an illustration of a distorted graph. Graph X is the base graph while graph Y is the distorted graph. The height of the second last column as well as the last columns of graph Y with the carrying values of 40 and 50 respectively had been increased to portray the performance more favourably than is warranted.

Plate 4.4   An illustration of a distortion of a graph.
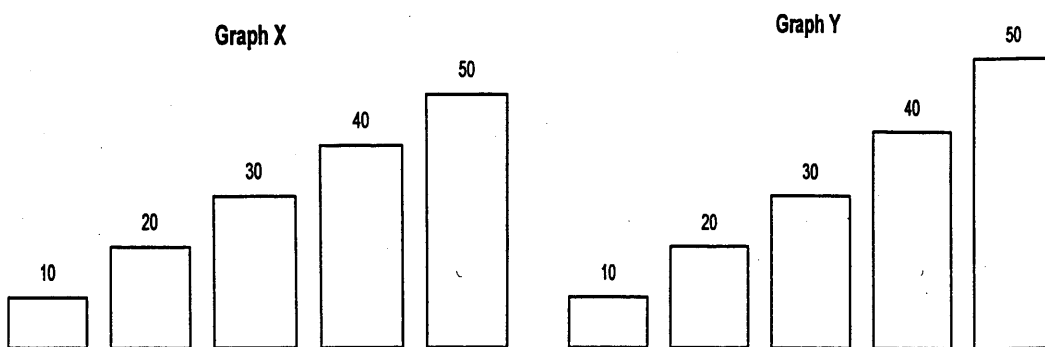
When it concerns environmental themes, this study examined the title of each environmental graph and then matched it with the appropriate environmental theme

suggested in the second generation of Global Reporting Initiatives (GRI) guidelines, introduced in 2002. The themes appearing in the third generation of GRI (better known as G3) are not taken into consideration as the G3 guidelines were introduced in 2006, which is beyond the period covered by the current study (2000–2005 inclusive). The GRI themes are chosen because these themes are viewed as future references for a standardisation in environmental reporting. An appropriate code for the environmental theme as per GRI guidelines is assigned accordingly to the respective environmental graph.

When it concerns the size of a graph presented in stand-alone reports, the same approach in measuring the size of a photograph is employed. The measurement of size is restricted only to graphs presented in stand-alone reports due to an infancy of research on graphs in stand-alone reports. By contrast, there are a substantial number of studies that addressed various presentation aspects of graphs in annual reports, hence their exclusion. Other decision rules related to the collection of data on graphs, in particular those involving the identifiable causes of distortion and special effects, are presented in Appendix G.

Overall, this study analysed a total of 6,062 graphs presented in stand-alone reports (2,690 graphs) and annual reports (3,372 graphs) over the period of six years (2000–2005 inclusive).

4.3.3 Tables

This study firstly captured the total number of tables in stand-alone reports and annual reports. This information is important in investigating the trend in the number of tables presented in these two reports over time. Also, this study analysed the tables presented in stand-alone reports in greater detail. The reason is to investigate the existence of the presentation of favourable, rather than unfavourable, information

on environmental-related activities. In the case where such phenomenon is detected, then the company is asserted to have exercised the impression management strategy of performance comparison. This part of the investigation has resulted in the collection of additional information, seven factors altogether, on tables presented in stand-alone reports. The first is the title of a table. The second is the length of comparison period in years. The third is the total number of environmental items presented in the table. The fourth is the outcome of the immediate comparison between the performance of the last reporting year and the performance of the previous year (0=unfavourable, 1=favourable)[50]. The fifth is the outcome of the comparison over time between the performance of the last reporting year and the performance of the first year provided that the gap between these years is more than 2 (0=unfavourable, 1=favourable). The sixth is the environmental theme (1=material, 2=energy, 3=water, 4=biodiversity, 5=emissions, effluents and waste, 6=products and services, 7=compliance, 8=transports, 9=overall)[51]. The last information on tables that this researcher has captured is the size of the table. When it concerns the measurement of size of a table, the same stricture in measuring the size of graphs and photographs are adopted. Other decision rules related to the collection of data on tables are presented in Appendix H.

Overall, this study analysed a total of 28,678 tables presented in stand-alone reports (1,560 tables) and annual reports (27,118 tables) over the period of six years (2000-2005 inclusive).

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[50] The current study employs similar recording rules and procedures for graphs where an improving performance presented in table is recorded as favourable (coding as 1) whilst a declining performance is recorded as unfavourable (coding as 0). Cases involved no change in the performance is not recorded as it is not part of this investigation.

[51] The current study used the same environmental themes as appeared in the 2002 release of the GRI guidelines to match with the title of a table. This environmental theme is employed throughout this study to ensure a consistency in the understanding of what a particular environmental theme means or refers to. Also, this is to ensure that the standardisation in the environmental themes employed is maintained throughout the investigation process up to the completion of this research.

4.3.4 Texts

This study collected data on texts presented in stand-alone reports only. The data is used to examine the amount of good news as compared to the amount of bad news. In the case where the amount of good news is more than the amount of bad news, the reporting companies are asserted to have exercised impression management (Clatworthy and Jones, 2003). The unit of measurement used for texts is the number of words. A similar unit of measurement is widely used in previous studies on textual characteristics (see for example Clatworthy and Jones, 2006). The reason for the use of words as a unit of measurement is because a word is the smallest unit in determining the length of a text, thus providing a more accurate measurement as compared to the number of sentences (Deegan and Gordon, 1996). Also, the number of sentences does not account for different words conveying the same message (Milne and Adler, 1999).

The scope of texts analysed in this study was restricted only to issues related to global warming. Global warming was chosen for being the current issue of environmental concern. Texts on global warming presented in two different sections of the stand-alone reports are captured. The first section is the Chairman's Statement (coded as 0). Related to this, there are cases where the statement presented in the chairman's statement section of the stand-alone reports comes from other top officials (0=non-chairman, 1=chairman). Such information is captured accordingly for it gives an indication of the commitment of the chairman in pursuing the environmental agenda of the company. The second section was the environmental disclosure section (coded as 1). The investigation on texts is restricted to these two sections only rather than the entire stand-alone reports due to an enormous amount of data that the researcher needs to be dealt with, in a limited period of time.

The collection of data on texts involved three steps. Firstly, the researcher produced a document file that contained all information presented in the section for the Chairman's Statement as well as those presented in the environmental section of the stand-alone report. Secondly, the researcher exported the said file into the application software of NVivo[52]. Thirdly, the researcher read each and every sentence in the file to identify the category for the statement on related environmental performance, and subsequently coded this sentence as favourable, unfavourable, or neutral, using the NVivo software. Analysing statements related to global warming is a tricky process indeed. Taking, for example, the disclosure about the release of emissions to the air, an increase (decrease) in the amount of emissions is in fact a decline (improvement) in performance, hence coded as unfavourable (favourable). The employment of manual analysis of the texts in the current study was unavoidable due to a critical requirement for a proper understanding of the context of information that had been presented.

Overall, this study captured a total of 258 incidents (28, 974 words) of good news – bad news on global warming presented in the Chairman's Statement and environmental disclosure section of the stand-alone reports over the period of six years (2000–2005 inclusive).

4.3.5 Other information on companies

This study also captured other relevant information about the companies. This information was either extracted from the Thomson ONE Banker database, or generously provided by FTSE[53]. This information is used to investigate the influence of company characteristics on the number of presentation formats of photographs,

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[52] This study used Nvivo version 7.

[53] The researcher highly appreciates and thanks FTSE for the assistance in providing the list of companies listed on the FTSE4Good from 2001-2005 inclusive. The list is used as a source to capture three related pieces of information. First are the firms' market capitalisations. Second is the list of companies listed on FTSE4Good index. Third is the firms' business sector.

graphs, and tables in stand-alone reports and annual reports. Useful information extracted from the Thomson database was company earnings before interest and tax (EBIT) for the period of 1999 - 2005. This information is used to calculate whether or not the financial performance for the current reporting year had improved or not improved, in comparison to that of the previous reporting year. Those companies with EBIT of the current reporting year greater than the previous year were regarded as having an improvement in performance while those companies with an EBIT equal to, or less than, the previous year were regarded as having a non-improvement in their performance (0=non-improved performance, 1=improved performance). This very same method was used in the previous studies in classifying the performing and the non-performing companies (see for example Clatworthy and Jones, 2001).

The following three related types of information on companies are gathered from FTSE. The first is the list of companies listed on FTSE4Good for the individual year from 2001–2005 inclusive[54]. The second is the market capitalisation of companies for the individual year from 2000–2005 inclusive, and the third information is the business sectors of selected companies. Information on market capitalisation is used as a proxy for size. Using this information, the sample is divided into two groups, namely smaller companies, and larger companies, using the median as the cut-off value. Companies whose market capitalisation is more than the median are categorised as larger companies, while companies whose market capitalisation is equal to, or less than, the median are categorised as smaller companies (0=smaller companies, 1=larger companies). A median, rather than a mean, of market capitalisation was used as a cut off value in segregating companies according to size to minimise the size effect being distorted by the size of top 10 FTSE companies. By using the median as a cut off value, the total number of companies in the larger group and the smaller group are equally divided. Information on the business sector

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[54] FTSE4Good index was introduced only in 2001.

is used to categorise companies in the sample into their respective groups of either environmentally sensitive, or environmentally non-sensitive (0=environmentally non-sensitive, 1=environmentally sensitive). Information about the companies listed on FTSE4Good was used to divide all the 46 companies in the sample into those companies listed on FTSE4Good, and those companies not listed on FTSE4Good (0=non-FTSE4Good, 1=FTSE4Good).

4.4 Data analyses

The unit of analysis for the data collection is the presentation formats of photographs, graphs, tables, and texts. This enabled an examination to be conducted on the trend relating to the use of respective presentation formats in stand-alone reports and annual reports. The analysis of data involves a statistical testing in order to prove the hypotheses that were developed in Chapter 3, *supra*. Results from the statistical testing will be used to provide answers to the research questions stated in Chapter 1, *supra*. Prior to that, the data needs to be tested in terms of its normality. Only then could an appropriate statistical testing – parametric or non-parametric – be employed. This is to avoid the employment of an incorrect statistical testing that could jeopardise the validity of the results.

4.4.1 Normality test

First and foremost, the selected sample needs to be tested in terms of its normality. This test is important for it determines the appropriate statistical testing to be employed for the data analysis. If the sample fits the normality assumptions, then a parametric test would be used. Otherwise, a non-parametric test has to be employed. The data is considered as normal if it is symmetrically distributed around the centre of all scores resulting in a bell-shaped curve (Field, 2005). The ideal curve is where the majority of scores lie around the centre of the distribution, and decreasing in

frequency as we get further away from the centre in either direction, left or right. In this case, according to Field (2005, p.13),

'it is possible to calculate the probability of getting particular scores based on the frequencies with which a particular score occurs in a distribution with these common shapes.'

The more the majority of scores deviate from the centre, the more likely it is that the data are non-normally distributed. Thus, to be able to employ a parametric test, normally distributed data is the first of the four assumptions. Homogeneity of variance is the second assumption. Variance is the average error between the mean, i.e. the hypothetical value representing a summary of data, and the observation made (Field, 2005, p.6). Thus, this second assumption entails that the variances should be the same throughout the data (Field, 2005, p.64). The third assumption is uniform interval data, i.e. the distance between the points on a scale should be equally spaced along the scale (Field, 2005, p.64). The fourth, and final assumption, is independence of data, which means that the behaviour of one participant does not influence the behaviour of another participant (Field, 2005, p.64).

According to Field (2005), only two assumptions can be tested, namely the first assumption and the second assumption. The third and the last assumptions are tested only "by common sense" (Field, 2005, p.65). The Kolmogorov-Smirnov (K-S) test for normality was used to test the first assumption. Related to this, the null hypothesis of the K-S test is that the data is non-normally distributed. This mean, if the K-S test produces a significant result, then the data is non-normally distributed, while the non-significant result of a K-S test indicates that the data is normally distributed. When it concerns homogeneity of variance, the Levene test was used to test for equal sample variance. The null hypothesis of the Levene test is that the variance is not significantly different. That means, if the Levene test is significant,

then the null hypothesis is rejected, indicating that the variances are significantly different. In the case of a non-significant result from Levene's test, this indicates that the variances are not significantly different, or are equal. Generally speaking, the non-significant results from both the K-S test and Levene tests suggest the employment of a parametric test. By contrast, significant results from these two tests indicated that the data is non-normally distributed, in which case, a non-parametric test has to be employed.

Table 4.9 presents the analysis results of the normality test for the selected items. In most K-S tests, and all cases for the Shapiro-Wilk (S-W) tests[55], the results are significant. This indicates that the data is non-normally distributed, thus a non-parametric test needs to be employed.

Table 4.9. The normality tests on selected items

Items	Kolmogorov-Smirnov test (N=223)				Shapiro-Wilk test (N=223)			
	Annual Report		Stand-alone report		Annual report		Stand-alone report	
	D	p	D	p	z	p	z	p
No of pages	0.0045	0.9960	-0.7848	0.0000 ***	5.5800	0.0000 ***	9.5660	0.0000 ***
No of photographs	0.1256	0.0300 **	-0.0628	0.4150	6.4280	0.0000 ***	6.3510	0.0000 ***
No of graphs	0.0045	0.9960	-0.1031	0.0930 *	7.7540	0.0000 ***	6.6420	0.0000 ***
No of tables	0.0000	1.0000	-0.9910	0.0000 ***	6.1240	0.0000 ***	8.9720	0.0000 ***
No of words	0.4305	0.0000 ***	0.0000	1.0000	7.2970	0.0000 ***	9.1210	0.0000 ***

Notes: This table presents the results of normality tests on selected items. ***, ** and * represent significant values of p at the 0.01, 0.05 an level. A non-significant value indicates that the data is normally distributed

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[55] The Shapiro-Wilk test is similar to the Kolmogorov-Smirnov test in the sense that both tests examine whether the distribution of scores is significantly different from a normal distribution. A significant value indicates a deviation from normality. Between the S-W test and K-S test, the earlier test generally produces a more accurate result than the latter. For details, see Field (2005, p. 527).

4.4.2 Statistical testing

The non-parametric statistical testing is employed to examine the data from three different aspects. In all cases, the statistical tools were used to test the differences between the two independent groups. The first test examined the difference in the characteristics of the reports (stand-alone reports and annual reports), and the number of presentation formats (photographs, graphs and tables) presented in these two types of reports. For example, a Mann-Whitney test is employed to test the differences in the number of pages of annual reports and stand-alone reports. The second test examined whether a company's characteristics (size, listing status, performance, and activity) have an influence on the number of report pages as well as on the number of presentation formats (photographs, graphs and tables) used. For instance, a Mann-Whitney test is employed to test the influence of size on the number of report pages. The third test examined the correlation between company's characteristics and impression management involving photographs in annual reports and stand-alone reports, and graphs, tables, and texts in stand-alone reports. Taking graphs for example, a Mann-Whitney test is employed to test the influence of size on the presentation of favourable news and unfavourable news in graphs. It becomes apparent that a Mann-Whitney test was used widely in this current study to test the differences between the two independent groups, where the distribution of data is not normal. In addition, and due to the non-normal distribution of data, Spearman's correlation coefficient is employed to measure the association between the selected company characteristics (size, listing status, performance, and activity).

4.4.2.1 Mann-Whitney Test

A Mann-Whitney test is a non-parametric test that has been used extensively in the current study. This test is virtually identical to the parametric test for an ordinary two-sample t-test. This test is used to compare two independent groups of sampled data, and tests the null hypothesis that the two samples come from identical populations.

For this test, the raw data from samples A and B are combined. To illustrate, let n(A) and n(B) represent the number of observations for A and B, giving the combined data, N = n (A) + n (B). The data from N is ranked from lowest to highest, which means that the group with the lowest mean rank is the group with the greatest number of lower scores in it. This ranked data, N, is then re-sorted into their original samples, A and B. A significant result indicates that the null hypothesis is rejected in favour of the alternate hypothesis, which means that the two samples come from different populations. In simple words, the two groups are significantly different. This test is usually performed as a two-tailed test rather than a one-tailed test. Nonetheless, the one-tailed significant value can be obtained by dividing the two-tailed significant values by 2 (see Field, 2009, p.551). In the case where the data appears to be normally distributed, a S-W test is employed to confirm the results produced by the K-S test. Field (2005, p.527) argues that in general, the S-W test is more accurate. This confirmation procedure is important, at least in the context of this current study, to ensure that an appropriate testing mechanism is being employed.

4.4.2.2 Spearman's correlation coefficient

Spearman's correlation coefficient is a non-parametric test that is used to measure the strength of the association or relationship between two variables. This association means that the changes occur in one variable from the mean results in similar changes in the other variable. In other words, if a relationship between the two variables exists, whenever one variable deviates from its mean, the other variable should deviate from its mean, either in the same or the opposite direction (Field, 2009 p.168). Spearman's test works by firstly ranking the data and then applying the Pearson correlation coefficient to those ranks (Field, 2009 p.180). The value of Spearman's *rho,* which represents the strength of association between the two variables, lies between -1 and +1. A coefficient of -1 indicates a perfect negative relationship while a coefficient of +1 indicates a perfect positive relationship. In the

case of a perfect negative relationship, when one variable increases, the other variable decreases by a proportionate amount. As for the perfect positive relationship, when one variable increases, the other variable increases by a proportionate amount. The coefficient of zero indicates of no relationship exists, which means that when one variable changes, the other variable stays the same.

4.5 Summary

This chapter explains the methodological aspect of the current research. The current study adopted a positivist approach in conducting the research, following the adoption of a similar approach as demonstrated in the previous studies of the same nature. The data collection technique employed in the current study involved secondary data. That said, the current study established a sample comprised of a total of 46 FTSE 100 companies by using a purposive sampling technique. A statistical test suggested that the 46 selected companies in the sample is a significant representation of larger companies listed on FTSE 100 index. It was from these selected companies that the current study successfully obtained a total of 446 reports that consist of an equal number of annual reports and stand-alone reports for the years 2000–2005, inclusive.

Most of the reports were obtained directly from the companies in the form of a hardcopy version, primarily due to the need to measure manually the size of photographs, graphs, and tables presented in those reports. Apparently, the higher the position of the company in the FTSE 100 ranking based on market capitalisation, the greater the possibility that the company would produce a hardcopy of a stand-alone report. By contrast, the lower the position of the company in the FTSE 100 rankings based on market capitalisation, the lesser the possibility that the company would produce a stand-alone report in the form of a hardcopy.

The current study employed content analysis to capture data involving the presentation of photographs, graphs and tables in those 446 reports. In addition, information related to texts in the Chairman's Statement and the environmental reporting sections of stand-alone reports are captured and later coded as either favourable news or unfavourable news. Other related information on companies that include market capitalisation, listing status on FTSE4Good index, EBIT and activity were also collected. This information was subsequently used to examine the influence of company characteristics on the presentation of photographs, graphs and tables in annual reports and stand-alone reports. Information related to market capitalisation and EBIT, acted as the proxy for size and performance, respectively. Apparently, the current study employed the non-parametric test for data analyses due to the non-normal distribution of data. Specifically, the Mann-Whitney test is used widely throughout this study. Results from the data analyses are presented in the subsequent three chapters, Chapters 5, 6 and 7 *infra*.

Chapter 5: Results – The length of reports & the rankings of presentation formats

5.0 Introduction

This chapter presents the results from the analyses on the length of annual reports and stand-alone reports, and also results from the analyses on photographs, graphs, and tables presented in those reports. When it concerns the presentation formats, two similar analyses were conducted for each of these presentation formats. The first analysis is on the total number of the respective presentation formats presented in annual reports and stand-alone reports for both, the individual years as well as over time. The second analysis is on the difference in the number of the respective presentation formats presented between annual reports and stand-alone reports. Apart of the total number, further analyses were also conducted on photographs and graphs and the results of the analyses were presented accordingly.

The remainder of this chapter is structured as follows. The following section, Section 5.1, presents results from the analysis on the length of annual reports and stand-alone reports. The next section, Section 5.2, presents results from the analysis on the ranking of photographs, graphs, and tables presented in those reports. The subsequent section, Section 5.3, presents the results from detail analysis on the respective presentation formats. The last section, Section 5.4, is summary that concludes this chapter.

5.1 The length of annual reports and stand-alone reports

Table 5.1 presents the total number of report pages of annual reports and stand-alone reports for the individual years, as well as over time. This study analysed the

difference in the number of pages of annual reports and stand-alone reports[56].

Results from a Mann-Whitney test indicated that there are significant increases in the number of pages involving annual reports ($p<0.01$) as well as stand-alone reports ($p<0.05$), thus supporting hypotheses H_{1a} and H_{1b}. Also, a Mann-Whitney test suggested that the number of pages is significantly more in annual reports with the mean number of pages of 115.6, than the number of pages in stand-alone reports where the mean number of pages is 42.9 ($p<0.01$), thus supporting hypothesis H_{1c}.

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[56] When it concerns the comparison over time, the number of pages of annual reports and stand-alone reports of 2005 are compared against the number of pages of the respective reports for 2000 to justify whether there is any significant difference in the lengths of these reports.

Table 5.1 Total report pages

Report type	2000				2001				2002				2003				2004				2005				Total			
	TP	%	Mean	p	TP	%	Mean	p	TP	%	Mean	p	TP	%	Mean	p	TP	%	Mean	p	TP	%	Mean	p	TP	%	Mean	p
Stand-alone report	578	23.6	30.4	<0.01***	898	24.3	32.1	<0.01***	1505	27.0	39.6	<0.01***	1985	27.5	43.2	<0.01***	1940	26.3	42.2	<0.01***	2670	29.5	58.0	<0.01***	9576	27.1	42.9	<0.01**
Annual report	1867	76.4	98.3		2802	75.7	100.07		4072	73.0	107		5240	72.5	114		5448	73.7	118		6367	70.5	138		25796	72.9	115.6	
All	2445	100.0			3700	100.0			5577	100.0			7225	100.0			7388	100.0			9037	100.0			35372	100.0		

Notes: This table compares total pages (TP) between stand-alone reports and annual reports. In particular the percentages and mean pages for annual reports and stand-alone reports are presented. p is the significance value of difference in the rankings of total pages between stand-alone reports and annual reports. *** represents a significant value of p at the 0.01 level in a two-tailed Mann-Whitney Test.

5.2 The ranking of presentation formats

Table 5.2 presents the total number of photographs, graphs, and tables in annual reports and stand-alone reports. Overall, 62% of presentation formats involved are tables (28,678 incidents), 25% are photographs (11,821 incidents), and 13% are graphs (6,062 incidents). That said, there are a total of 5,866 photographs (5955 photographs), 27,118 tables (1560 tables), and 3372 graphs (2690 graphs) presented in the annual reports (the stand-alone reports) within the 6-year period of the study from 2000 to 2005, inclusive. In terms of percentage of presentation formats in annual reports (stand-alone reports), 75% (15%) are tables, 16% (58%) are photographs, and 9% (26%) are graphs. This means that tables are ranked in the first position in the ranking of favourite presentation formats in annual reports, followed by photographs and graphs in the second and third positions, respectively. Meanwhile, photographs are placed in the first position in the ranking of favourite presentation formats in stand-alone reports, followed by graphs and tables in the second and third positions, respectively.

Table 5.2 Total photographs, graphs and tables in annual reports and stand-alone reports

Format	2000		2001		2002		2003		2004		2005		Total		All
	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	
Tables	133	2024	167	2988	216	4313	224	5403	354	5577	466	6813	1560	27118	28678
[%]	[16.0]	[71.8]	[14.6]	[72.0]	[12.1]	[73.0]	[11.4]	[72.8]	[16.5]	[75.1]	[19.9]	[78.9]	[15.2]	[74.6]	[61.6]
Photographs	429	518	653	760	1114	1018	1261	1340	1215	1181	1283	1049	5955	5866	11821
[%]	[51.8]	[18.4]	[57.1]	[18.3]	[62.1]	[17.2]	[64.6]	[18.1]	[56.7]	[15.9]	[54.7]	[12.1]	[58.4]	[16.1]	[25.4]
Graphs	267	275	324	400	463	580	468	677	573	664	595	776	2690	3372	6062
[%]	[32.2]	[9.8]	[28.3]	[9.7]	[25.8]	[9.8]	[24.0]	[9.1]	[26.8]	[9.0]	[25.4]	[9.0]	[26.4]	[9.3]	[13.0]
All	829	2817	1144	4148	1793	5911	1953	7420	2142	7422	2344	8638	10205	36356	46561
[%]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]	[100.0]

Notes: This table presents total photographs, graphs and tables in annual reports and stand-alone reports. Figures in the parenthesis is the percentage of reports. SAR=stand-alone reports. AR=annual report.

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5.3 Detail analyses on presentation formats

Presentation formats of photographs, graphs, and tables presented in annual reports and stand-alone reports are analysed in a greater detail in order to have a better understanding about the similarities and differences in terms of their attributes between these two different types of reports.

5.3.1 Photographs

Photographs presented in annual reports and stand-alone reports are analysed from six different perspectives, namely, (1) total number; (2) size; (3) the foreground image; (4) the background image; (5) humans in photographs; and (6) portrait photographs.

5.3.1.1 Total number

Table 5.3 presents the total number of photographs presented in stand-alone reports and annual reports from 2000–2005, inclusive. Overall, the mean number of photographs in the annual reports and stand-alone reports are 26.7 and 26.3, respectively. That said, there were no photographs presented in 8% of the reports (37 out of 446 reports – 9 stand-alone reports and 28 annual reports). Indirectly, this means that 92% of the reports presented at least one photograph. This indicates that companies are more likely to presenting, rather than not presenting, photographs in their annual reports and stand-alone reports. Also, photographs are more likely to be exhibited in the stand-alone reports, rather than, in annual reports.

Table 5.3 Number of photographs in stand-alone reports and annual reports

Total number	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
No photographs	0	3	4	6	1	4	0	5	2	4	2	6	9	28	37
[%]	-	[15.8]	[14.3]	[21.4]	[2.6]	[10.5]	-	[10.9]	[4.3]	[8.7]	[4.3]	[13.0]	[4.0]	[12.6]	[8.3]
1 - 10	4	3	6	2	9	9	9	9	10	11	9	10	47	44	91
[%]	[21.1]	[15.8]	[21.4]	[7.1]	[23.7]	[23.7]	[19.6]	[19.6]	[21.7]	[23.9]	[19.6]	[21.7]	[21.1]	[19.7]	[20.4]
11 - 20	7	3	7	4	8	3	8	7	11	9	12	7	53	33	86
[%]	[36.8]	[15.8]	[25.0]	[14.3]	[21.1]	[7.9]	[17.4]	[15.2]	[23.9]	[19.6]	[26.1]	[15.2]	[23.8]	[14.8]	[19.3]
21 - 30	4	2	5	4	7	6	11	6	9	8	6	10	41	36	77
[%]	[21.1]	[10.5]	[17.9]	[14.3]	[18.4]	[15.8]	[23.9]	[13.0]	[19.6]	[17.4]	[13.0]	[21.7]	[18.4]	[16.1]	[17.3]
31 - 40	0	2	0	4	1	6	7	4	4	4	7	5	20	25	45
[%]	-	[10.5]	-	[14.3]	[2.6]	[15.8]	[15.2]	[8.7]	[8.7]	[8.7]	[15.2]	[10.9]	[9.0]	[11.2]	[10.1]
41 - 50	3	2	1	2	5	5	7	6	2	4	2	4	20	23	43
[%]	[15.8]	[10.5]	[3.6]	[7.1]	[13.2]	[13.2]	[15.2]	[13.0]	[4.3]	[8.7]	[4.3]	[8.7]	[9.0]	[10.3]	[9.6]
51 - 60	0	2	2	5	2	2	2	2	2	1	2	1	10	13	23
[%]	-	[10.5]	[7.1]	[17.9]	[5.3]	[5.3]	[4.3]	[4.3]	[4.3]	[2.2]	[4.3]	[2.2]	[4.5]	[5.8]	[5.2]
61 - 70	0	2	1	1	2	1	2	5	5	3	2	1	13	13	26
[%]	-	[10.5]	[3.6]	[3.6]	[5.3]	[2.6]	[4.3]	[10.9]	[10.9]	[6.5]	[4.3]	[2.2]	[5.8]	[5.8]	[5.8]
> 70	1	0	2	0	3	2	0	2	1	2	4	2	10	8	18
[%]	[5.3]	-	[7.1]	-	[7.9]	[5.3]	-	[4.3]	[2.2]	[4.3]	[8.7]	[4.3]	[4.5]	[3.6]	[4.0]

(continued)

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Table 5.3 (continued)

Total number	2000 SAR	AR	2001 SAR	AR	2002 SAR	AR	2003 SAR	AR	2004 SAR	AR	2005 SAR	AR	Total SAR	AR	All
Total report	19	19	28	28	38	38	46	46	46	46	46	46	223	223	446
Total percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total photos	429	518	653	760	1114	1018	1261	1340	1215	1181	1283	1049	5955	5866	11821
Mean	22.6	27.3	23.3	27.1	29.3	26.8	27.4	29.1	26.4	25.7	27.9	22.8	26.7	26.3	26.5
Std dev	17.7	23.8	24.4	22.1	26.7	24.7	16.7	29.3	21.4	26.1	23.5	20.6	22.0	24.7	23.3
Min	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Max	74	68	90	70	113	105	70	144	73	114	91	84	113	144	144
pB	0.84		0.52		0.71		0.54		0.57		0.34		0.43		-
pO	-		-		-		-		-		0.60	0.54	-		-

Notes: This table presents total number of stand-alone reports (SAR) and annual reports (AR) with photographs. The figure in parenthesis is the percentage of reports from the total. The total number and the mean of photographs in stand-alone reports and annual reports are shown. pB is the significance value of difference in the rankings of total photographs of the two samples (SAR and AR) and pO is the significance value of that rankings over time for the individual sample in a two-tailed Mann-WhitneyTest.

Altogether, there are a total of 11,821 photographs presented in 409 reports[57], within the 6-year period of the study. Out of 11,821 photographs, 50.4% (5,955 photographs) are presented in 214 stand-alone reports, and 49.6% (5,866 photographs) are presented in 195 annual reports. Indirectly, this means that the mean number of photographs in photograph-using stand-alone reports and photograph-using annual reports are 27.8 and 30.1, respectively. Subsequently, a Mann-Whitney test is used to test the difference in the number of photographs between stand-alone reports and annual reports[58] and the result is not significant (p>0.1). This non-significant result suggests that the number of photographs presented between stand-alone reports and annual reports is not significantly different. As such, hypothesis H_3 is not supported.

Overall, 24% (53 reports) of stand-alone reports presented photographs in the region of 11 – 20, inclusive, namely the popular region for number of photographs presented in the stand-alone reports. Likewise, 20% (44 reports) of annual reports presented photographs in the region of 1 – 10, inclusive, namely the most popular region for number of photographs presented in the annual reports. That said, 66% of annual reports and 55% of stand-alone reports presented more than 20 photographs. The maximum number of photographs presented in stand-alone reports and annual reports is 113 and 144, respectively.

Figure 5.1 presents the trend of the average number of photographs presented in stand-alone reports and annual reports over the 6-year period of study. Over time, there is an increase in the average number of photographs presented in the stand-alone reports, from 23 photographs in 2000 to 28 photographs in 2005. By contrast, there is a decrease in the average number of photographs presented in the annual

[57] The figure refers to the annual reports and stand-alone reports with at least one photograph presented in them.
[58] The results from the Kolmogorov-Smirnov test indicates that the data involving photographs in annual reports, D(223)=0.13, p=0.03, is non-normally distributed, hence the use of a non-parametric test.

reports, from 27 photographs in 2000 to 23 photographs in 2005. Subsequently, the difference in the numbers of photographs presented over time in stand-alone reports and annual reports is examined[59]. The result of a Mann-Whitney test indicates that there is no significant difference in the number of photographs presented over time in either the stand-alone reports[60] or annual reports[61] (p>0.1). This means that hypotheses H_{2a} and H_{2b} are not supported.

Figure 5.1 The average number of photographs in stand-alone reports and annual reports

<hr>
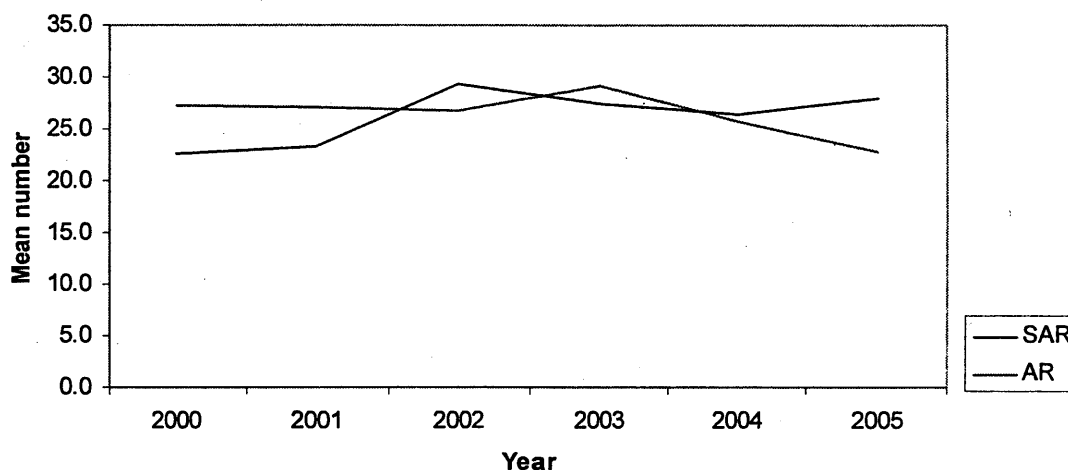
[59] Basically, the small size of the sample for 2000 (19 companies) suggested that a non-parametric test is to be employed. Amid that, the researcher tested the normality distributions of data on the number of photographs for stand-alone reports and annual reports. The results of the K-S test suggested that the data for annual reports (D(19)=0.13,ns) and stand-alone reports (D(19)=0.16,ns) for 2000 are normally distributed. The researcher then employed the Shapiro-Wilks (S-W) test to confirm these findings since, in general, the results produced by the S-W test are more accurate (refer to the methodology chapter for details). The results from the S-W test indicates that the 2000 data for annual reports (z(19)=1.63, p=0.05) and stand-alone reports (z(19)=1.95, p=0.03) are not normally distributed, hence the use of a non-parametric test.

[60] The average rank for number of photographs in stand-alone reports for 2000 is 31, while that for 2005 is 34.

[61] The average rank for number of photographs in annual reports for 2000 is 35 while that for 2005 is 32.

This study also examined the difference in the number of photographs between annual reports and stand-alone reports for the individual years[62]. A Mann-Whitney test was employed and the results indicated that the difference in the number of photographs between annual reports and stand-alone reports for the individual years is not significant[63] (p>0.1).

5.3.1.2 Size

Table 5.4 presents details of the overall size of photographs presented in stand-alone reports and annual reports[64]. It was found that a total of 1,839.27 pages of report space were occupied by 11,821 photographs. Stand-alone reports accounted for 51% (931.42 pages) while annual reports accounted 49% (907.85 pages) out of the 1,839.27 pages.

In the extreme case, photographs occupied more than 8 pages of report space as demonstrated in 18% of stand-alone reports (39 reports) and 19% of annual reports (43 reports). However, on average, photographs occupied only four pages of report space, which applies to both the stand-alone reports and annual reports[65]. The current study subsequently examined the difference in the mean size of photographs between stand-alone reports and annual reports[66]. A Mann-Whitney test indicated that there is no significant difference in the size of photographs between the stand-

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[62] Earlier, the non-normal distribution of data for the number of photographs in annual reports and stand-alone reports for 2000 was given. For the annual reports, the results of the S-W test is z(28)=1.60, p=0.05 for 2001; z(38)=3.08, p<0.01 for 2002; z(46)=4.00, p<0.01 for 2003; z(46)=4.24, p<0.01 for 2004; and z(46)=3.04, p<0.01 for 2005. These results suggested that the data for number of photographs in annual reports is non-normally distributed. The normality tests for the data distribution for the stand-alone reports at this point are not required since the non-normal distribution of one of the variables involved requires the use of a non-parametric test.

[63] Results of the Mann-Whitney test are presented in Table 5.1. The significant value, p=0.84 for 2000; p=0.52 (2001); p=0.71 (2002); p=0.54 (2003); p=0.57 (2004); and p=0.34 for 2005.

[64] The measurement of the sizes of photographs in this study involved all photographs presented in stand-alone reports and annual reports of selected companies for the period of 2000-2005 inclusive.

[65] The calculations include also reports without a photograph to indicate an average for the whole reports

[66] The Kolmogorov-Smirnov test suggested that the data on size of photographs in annual reports, D(223)=0.14, p=0.02, is non-normally distributed whereas the related data for the stand-alone reports, D(223)=-0.06, ns, is normally distributed. As one of the data distributions is non-normal, therefore a non-parametric test is employed.

alone reports and annual reports[67] (p>0.1). Therefore, hypothesis H_4 is not supported.

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[67] The average rank for annual reports is 217, while that for the stand-alone reports is 230.

Table 5.4   Range of photograph size in stand-alone reports and annual reports

Pages	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
No photograph	0	3	4	6	1	4	0	5	2	4	2	6	9	28	37
[%]	-	[15.8]	[14.3]	[21.4]	[2.6]	[10.5]	-	[10.9]	[4.3]	[8.7]	[4.3]	[13.0]	[4.0]	[12.6]	[8.3]
0.01 < size <= 0.5	4	1	6	1	1	3	4	4	5	5	3	0	23	14	37
[%]	[21.1]	[5.3]	[21.4]	[3.6]	[2.6]	[7.9]	[8.7]	[8.7]	[10.9]	[10.9]	[6.5]	-	[10.3]	[6.3]	[8.3]
0.5 < size <= 1.0	2	2	1	2	5	6	2	9	4	11	4	9	18	39	57
[%]	[10.5]	[10.5]	[3.6]	[7.1]	[13.2]	[15.8]	[4.3]	[19.6]	[8.7]	[23.9]	[8.7]	[19.6]	[8.1]	[17.5]	[12.8]
1.0 < size <= 1.5	2	1	3	0	7	3	5	4	7	4	6	4	30	16	46
[%]	[10.5]	[5.3]	[10.7]	-	[18.4]	[7.9]	[10.9]	[8.7]	[15.2]	[8.7]	[13.0]	[8.7]	[13.5]	[7.2]	[10.3]
1.5 < size <= 2.0	0	1	0	2	3	3	5	2	5	3	6	4	19	15	34
[%]	-	[5.3]	-	[7.1]	[7.9]	[7.9]	[10.9]	[4.3]	[10.9]	[6.5]	[13.0]	[8.7]	[8.5]	[6.7]	[7.6]
2.0 < size <= 2.5	1	1	1	0	2	0	2	0	2	2	2	3	10	6	16
[%]	[5.3]	[5.3]	[3.6]	-	[5.3]	-	[4.3]	-	[4.3]	[4.3]	[4.3]	[6.5]	[4.5]	[2.7]	[3.6]
2.5 < size <= 3.0	1	0	1	2	4	1	4	0	1	0	2	0	13	3	16
[%]	[5.3]	-	[3.6]	[7.1]	[10.5]	[2.6]	[8.7]	-	[2.2]	-	[4.3]	-	[5.8]	[1.3]	[3.6]
3.0 < size <= 3.5	0	2	3	1	1	1	1	0	1	0	4	2	10	6	16
[%]	-	[10.5]	[10.7]	[3.6]	[2.6]	[2.6]	[2.2]	-	[2.2]	-	[8.7]	[4.3]	[4.5]	[2.7]	[3.6]
3.5 < size <= 4.0	1	1	0	0	2	1	3	1	3	0	1	3	10	6	16
[%]	[5.3]	[5.3]	-	-	[5.3]	[2.6]	[6.5]	[2.2]	[6.5]	-	[2.2]	[6.5]	[4.5]	[2.7]	[3.6]

(continued)

Table 5.4 (continued)

Pages	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
4.0 < size <= 4.5	0	0	2	0	2	1	1	2	1	1	0	2	6	6	12
[%]	-	-	[7.1]	-	[5.3]	[2.6]	[2.2]	[4.3]	[2.2]	[2.2]	-	[4.3]	[2.7]	[2.7]	[2.7]
4.5 < size <= 5.0	1	0	0	1	0	3	0	2	0	2	1	1	2	9	11
[%]	[5.3]	-	-	[3.6]	-	[7.9]	-	[4.3]	-	[4.3]	[2.2]	[2.2]	[0.9]	[4.0]	[2.5]
5.0 < size <= 5.5	2	1	0	1	0	0	2	2	2	3	0	1	6	8	14
[%]	[10.5]	[5.3]	-	[3.6]	-	-	[4.3]	[4.3]	[4.3]	[6.5]	-	[2.2]	[2.7]	[3.6]	[3.1]
5.5 < size <= 6.0	3	0	3	1	2	1	2	1	0	0	0	0	10	3	13
[%]	[15.8]	-	[10.7]	[3.6]	[5.3]	[2.6]	[4.3]	[2.2]	-	-	-	-	[4.5]	[1.3]	[2.9]
6.0 < size <= 6.5	1	1	0	0	2	1	0	0	1	0	2	1	6	3	9
[%]	[5.3]	[5.3]	-	-	[5.3]	[2.6]	-	-	[2.2]	-	[4.3]	[2.2]	[2.7]	[1.3]	[2.0]
6.5 < size <= 7.0	0	1	1	2	0	0	1	2	2	1	0	2	4	10	14
[%]	-	[5.3]	[3.6]	[7.1]	-	-	[2.2]	[4.3]	[4.3]	[2.2]	-	[4.3]	[1.8]	[4.5]	[3.1]
7.0 < size <= 7.5	0	0	1	2	1	2	1	1	0	1	2	0	5	4	9
[%]	-	-	[3.6]	[7.1]	[2.6]	[5.3]	[2.2]	[2.2]	-	[2.2]	[4.3]	-	[2.2]	[1.8]	[2.0]
7.5 < size <= 8.0	0	1	0	2	0	0	1	1	1	0	1	0	3	4	7
[%]	-	[5.3]	-	[7.1]	-	-	[2.2]	[2.2]	[2.2]	-	[2.2]	-	[1.3]	[1.8]	[1.6]
size > 8.0	1	3	2	5	5	8	12	10	9	9	10	8	39	43	82
[%]	[5.3]	[15.8]	[7.1]	[17.9]	[13.2]	[21.1]	[26.1]	[21.7]	[19.6]	[19.6]	[21.7]	[17.4]	[17.5]	[19.3]	[18.4]

(continued)

Table 5.4 (continued)

Pages	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
Total report	2019	19	2029	28	2040	38	2049	46	2050	46	2051	46	223	223	446
Total percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	3.3	3.8	2.9	4.2	3.7	4.5	5.3	4.4	4.3	3.5	4.5	3.9	4.2	4.1	4.1
Std dev	2.7	3.5	3.0	3.6	3.7	4.9	5.3	5.0	4.6	4.0	4.9	4.4	4.4	4.4	4.4
Min	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	9.3	11.9	10.7	10.5	17.1	15.3	27.4	22.3	17.5	15.9	24.8	16.4	27.4	22.3	27.4
pB	0.87		0.23		0.88		0.14		0.23		0.52		0.26		-
pO	-		-		-		-		-		0.52	0.86	-		-

Notes: This table presents total number of stand-alone reports (SAR) and annual reports (AR) that present photographs of different sizes. The figure in parenthesis is the percentage of reports from the total. In particular, the mean value of size of photographs in stand-alone reports and annual reports are shown. pB is the significance value of difference in the rankings of size of photographs of the two samples (SAR and AR) and pO is the the significance value of that over time for the individual sample in a two-tailed Mann-WhitneyTest.

Figure 5.2 presents the trend of the average report space occupied by photographs presented in the stand-alone reports and annual reports. It appears that over time, the mean of report space occupied by photographs in annual reports is stable at around 4 pages. By contrast, the mean of report space occupied by photographs in the stand-alone reports over time appears to be increasing from around 3 pages in 2000 to 4.5 pages in 2005. Also, the current study examined the difference in the report space occupied by photographs in annual reports as well as in stand-alone reports[68]. The results of a Mann-Whitney test indicated that the difference in the amount of report space occupied by photographs presented in stand-alone reports over time is not significant (p>0.1)[69]. Similarly, the results of a Mann-Whitney test suggested that the difference in the amount of report space occupied by photographs presented in annual reports over time is not significant (p>0.1)[70].

Figure 5.2 The average size of photographs in stand-alone reports and annual reports

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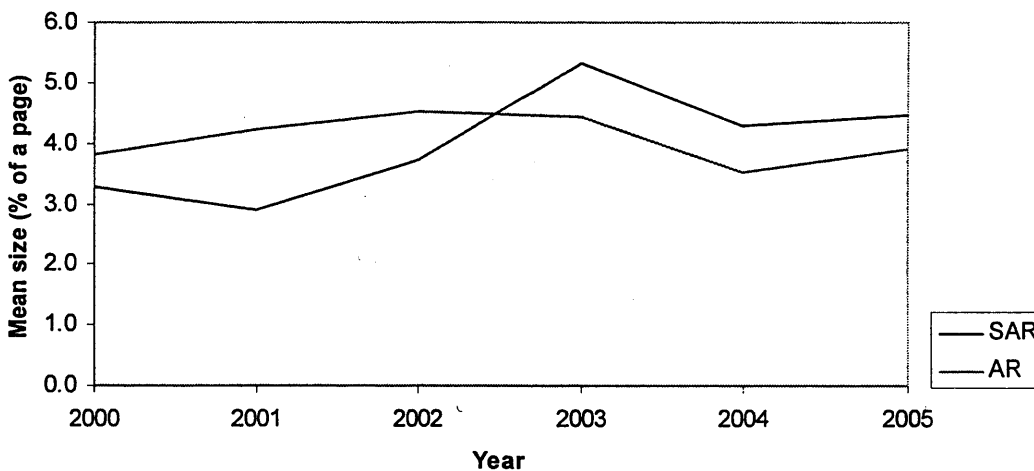
[68] The S-W test suggests that the distributions of the 2000 data for annual reports (z(19)=1.64, p=0.05) and stand-alone reports (z(19)=1.60, p=0.06) are non-normal, hence the use of a non-parametric test.
[69] The average rank for size of photographs in stand-alone reports for 2000 is 31 while for 2005, the average rank for size is 34.
[70] The average rank for size of photographs in stand-alone reports for 2000 is 34 while for 2005, the average rank is 33.

The current study also examined the difference in the amount of report space occupied by photographs in annual reports and stand-alone reports for the individual years[71]. Results from a Mann-Whitney test suggested that the difference in the amount of report space occupied by photographs between annual reports and stand-alone reports for individual years is not significant (p>0.1)[72].

5.3.1.3 Foreground image

Table 5.5 presents detail related to the foreground images in photographs presented in annual reports and stand-alone reports[73]. There are altogether six different themes that are used to describe the nature of the foreground image of a photograph. They are (1) humans at a workplace, (2) humans not at a workplace, (3) a workplace[74], (4) a nature, (5) animals, and (6) other[75]. Overall, humans at a workplace, humans not at a workplace, and a workplace hold the top three positions in the ranking of the most popular themes of foreground image in photographs. The category of humans at a workplace is used as the foreground image in photographs in almost 50% of the reports. Images of humans not at a workplace are the theme of 17% of the total photographs (2037 out of 11,821 photographs) while images of a workplace are the theme of 16% of the total photographs (1929 out of 11,821 photographs). Apparently, these three themes – humans at a workplace, humans not at a workplace, and a workplace – also occupied the top three positions of favourite themes for foreground images in photographs presented in both the annual reports and stand-alone reports.

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[71] Earlier, the data distributions of size of photographs in annual reports and stand-alone reports for 2000 were found to be non-normal. When it concerns annual reports, the results of the S-W test are z(28)=2.28, p=0.01 for 2001; z(38)=4.25, p<0.01 for 2002; z(46)=4.41, p<0.01 for 2003; z(46)=4.63, p<0.01 for 2004; and z(46)=4.74, p<0.01 for 2005. Consequently, the S-W test suggests that the data for number of photographs in annual reports are non-normally distributed. As usual, the normality tests for the data distribution for the stand-alone reports are not required at this point since the non-normal distribution of one of the variables involved would require the use of a non-parametric test.

[72] Results of the Mann-Whitney test are presented in Table 5.2. The significant value, p=0.87 for 2000; p=0.23 (2001); p=0.88 (2002); p=0.14 (2003); p=0.23 (2004); and p=0.52 for 2005.

[73] Images in a photograph are separated into foreground image, namely, the image portrayed in the front of a photograph and the background image, which is the image portrayed in the background of a photograph.

[74] This includes *inter alia*, equipments, tools, and machineries.

[75] "Others" as a foreground and a background photograph subject include places such as cafe, restaurant, playground, residential areas and other undetermined items that include a house, a street and so on.

These three positions remain unchanged in the case of the stand-alone reports. Meanwhile, the theme of humans at a workplace still holds the first position in the ranking of the favourite theme for foreground images in photographs presented in annual reports. However, there is a slight difference in the ranking for the second and third positions where a workplace is ranked in the second position, while humans not at a workplace is ranked in the third position, in the ranking of the favourite theme for foreground images in photographs presented in annual reports.

Table 5.5 Details of foreground images of photographs in stand-alone reports and annual reports

Foreground subject	2000 SAR	AR	2001 SAR	AR	2002 SAR	AR	2003 SAR	AR	2004 SAR	AR	2005 SAR	AR	Total SAR	AR	All
Humans at a workplace	176	287	245	454	434	591	549	725	520	693	554	675	2478	3425	5903
[%]	[41.0]	[55.4]	[37.5]	[59.7]	[39.0]	[58.1]	[43.5]	[54.1]	[42.8]	[58.7]	[43.2]	[64.3]	[41.6]	[58.4]	[49.9]
pB	0.23		0.12		0.32		0.47		0.21		0.20		0.01 ***		-
pO	-		-		-		-		-		0.35	0.85	-		-
Humans not at a workplace	78	48	144	88	282	143	253	258	278	120	215	130	1250	787	2037
[%]	[18.2]	[9.3]	[22.1]	[11.6]	[25.3]	[14.0]	[20.1]	[19.3]	[22.9]	[10.2]	[16.8]	[12.4]	[21.0]	[13.4]	[17.2]
pB	0.16		0.15		0.06 *		0.08 *		< 0.01 ***		< 0.01 ***		< 0.01 ***		-
pO	-		-		-		-		-		0.53	0.61	-		-
Workplace	74	101	63	107	115	173	240	207	216	246	231	156	939	990	1929
[%]	[17.2]	[19.5]	[9.7]	[14.1]	[10.3]	[17.0]	[19.0]	[15.4]	[17.8]	[20.8]	[18.0]	[14.9]	[15.8]	[16.9]	[16.3]
pB	0.86		1.00		0.91		0.11		0.05 **		0.12		0.02 **		-
pO	-		-		-		-		-		0.33	0.52	-		-
Nature	45	30	85	11	56	13	49	13	41	10	56	13	332	90	422
[%]	[10.5]	[5.8]	[13.0]	[1.5]	[5.0]	[1.3]	[3.9]	[1.0]	[3.4]	[0.9]	[4.4]	[1.2]	[5.6]	[1.5]	[3.6]
pB	0.05 **		0.04 **		0.05 **		0.01 ***		0.02 **		0.01 ***		< 0.01 ***		-
pO	-		-		-		-		-		0.36	0.77	-		-
Animals	12	3	13	8	18	3	15	3	20	7	20	9	98	33	131
[%]	[2.8]	[0.6]	[2.0]	[1.1]	[1.6]	[0.3]	[1.2]	[0.2]	[1.7]	[0.6]	[1.6]	[0.9]	[1.7]	[0.6]	[1.1]
pB	0.20		0.68		0.05 **		0.03 **		0.06 *		0.02 **		< 0.01 ***		-
pO	-		-		-		-		-		0.50	0.28	-		-

(Continued)

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Table 5.5 (continued)

Foreground subject	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
Other	44	49	103	92	209	95	155	134	140	105	207	66	858	541	1399
[%]	[10.3]	[9.5]	[15.8]	[12.1]	[18.8]	[9.3]	[12.3]	[10.0]	[11.5]	[8.9]	[16.1]	[6.3]	[14.4]	[9.2]	[11.8]
All	429	518	653	760	1114	1018	1261	1340	1215	1181	1283	1049	5955	5866	11821
Total percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes: This table presents total number of foreground subjects of photographs in stand-alone reports and annual reports. The value in parenthesis is the percentage number of photographs from the total. pB is the significance value of difference in the rankings of foreground subject of the two samples (SAR and AR) and pO is the significance value of that over time for the individual sample in a Mann-Whitney test. ***, ** and * represent a significant value of pB respectively at the 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney test.

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Foreground images of humans at a workplace is an overall favourite for a foreground image in photographs presented in the stand-alone reports, as well as in the annual reports. This specific theme is encountered in 42% (2478 photographs) out of 5,955 photographs in stand-alone reports. As for the annual reports, this very same theme is encountered in 58% (3425 photographs) out of 5,866 photographs in total. This implies that there are more photographs depicting a foreground image of humans at a workplace presented in annual reports, rather than in stand-alone reports. A Mann-Whitney test was subsequently employed to test this observation[76] and the result indicates that there are significantly more photographs with a foreground image of humans at a workplace in annual reports than in stand-alone reports ($p=0.01$)[77].

Apparently, there are more photographs with a foreground image of a workplace in annual reports than in stand-alone reports. A Mann-Whitney test was subsequently employed[78] and a significant result ($p=0.02$) is recorded. The result indicates that there are significantly more photographs with a foreground image of a workplace in annual reports than in stand-alone reports[79].

Generally, annual reports present significantly more photographs with foreground images of humans at a workplace and a workplace, than that for stand-alone reports. By contrast, photographs with foreground images of humans not at a workplace, a nature, and animals are presented more frequently in stand-alone reports than in annual reports. The results of a Mann-Whitney test suggested that the differences in the number of photographs between the annual reports and stand-alone reports,

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[76] The Mann-Whitney test was employed following the significant results of the K-S test for both annual reports (D(223)=0.13, p=0.02) and stand-alone reports (D(223)=-0.29, p<0.01).

[77] The average rank for foreground image of humans at a workplace in photographs presented in annual reports is 241, while for the stand-alone reports the average rank is 206.

[78] The K-S test indicates that the distribution of data is non-normal for annual reports (D(223)=0.21, p<0.01) whilst the distributions of respective data in stand-alone reports is normal (D(223)=-0.05, ns). As one of the data distributions is non-normal, a non-parametric test is required.

[79] The average rank of foreground image of a workplace, et cetera, in photographs presented in annual reports is 238, while for the stand-alone reports the average rank is 210.

falling into these three themes are highly significant (p<0.01 for all cases)[80]. In fact, photographs of these three themes (humans not at a workplace, a nature, and animals) are encountered significantly more often in stand-alone reports than in annual reports since 2002. Plate 5.1 and Plate 5.2 presents samples of photographs of different themes.

Plate 5.1   A photographs of 'humans not at a workplace'

(Source: Alliance-Leicester's CSR report 2003)

Plate 5.2   A photograph of 'humans at a workplace'

(Source: Anglo American plc's Report to Society 2002)

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[80] The results of the K-S test indicates that distributions of data in annual reports is non-normal for photographs with foreground images of humans not at a workplace (D(223)=0.30, p<0.01); a nature (D(223)=0.23, p<0.01) and animals (D(223)=0.14, p=0.01). The average rank of foreground images of humans not at a workplace, nature and animals in photographs presented in stand-alone reports are 257, 253 and 240, respectively. The values for annual reports are 190, 194 and 207, respectively.

Figures 5.3a – 5.3e present the trend, based on the percentage of foreground images for all the themes excluding 'other', in photographs presented in the stand-alone reports and annual reports.

Figure 5.3a The percentage of humans at a workplace as a foreground image
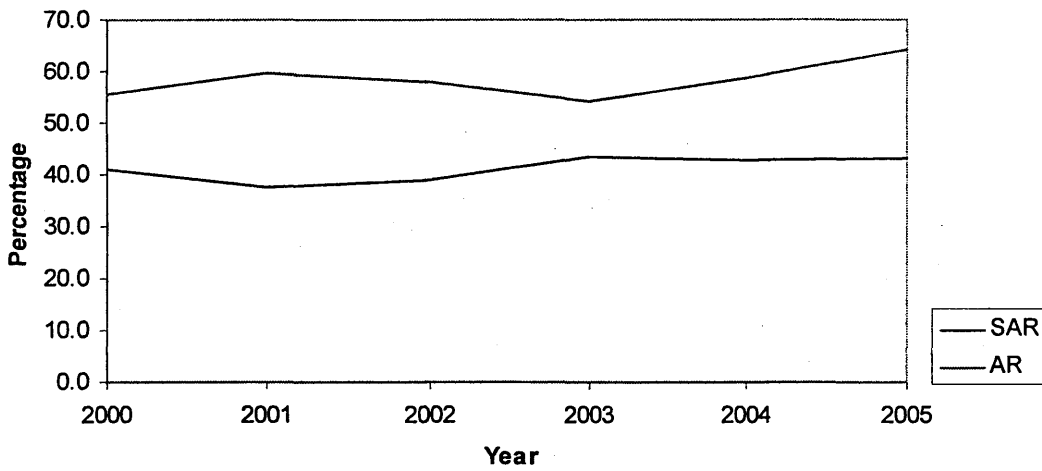
Figure 5.3b The percentage of humans not at a workplace as a foreground image
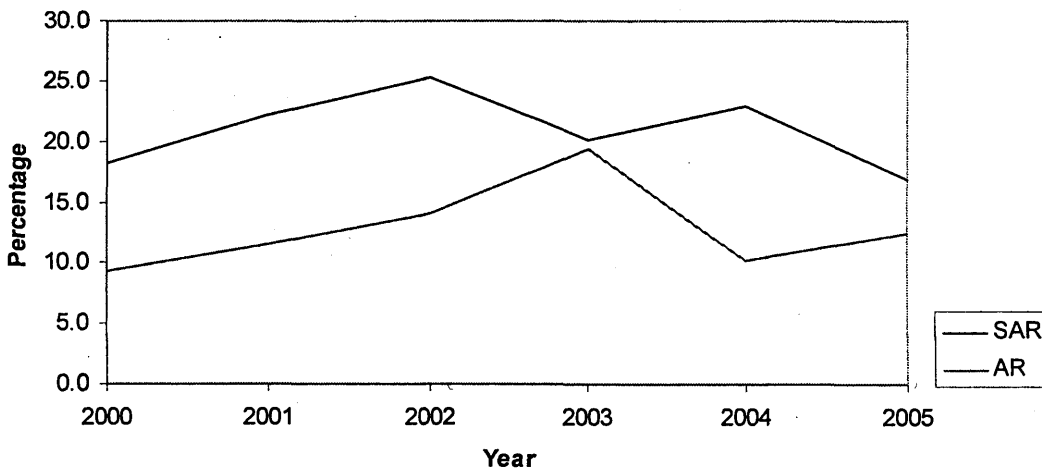
Figure 5.3c The percentage of a workplace as a foreground image
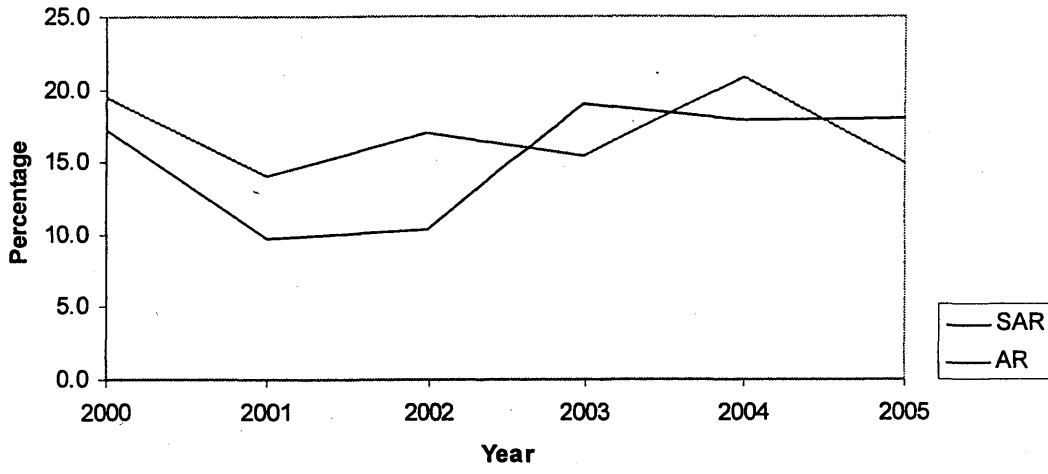
Figure 5.3d The percentage of nature as a foreground image
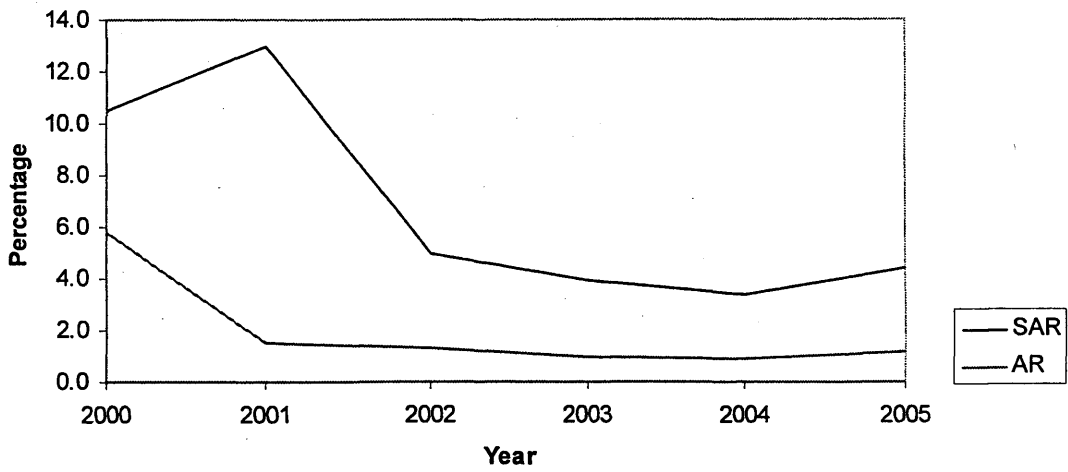
Figure 5.3e The percentage of animals as a foreground image
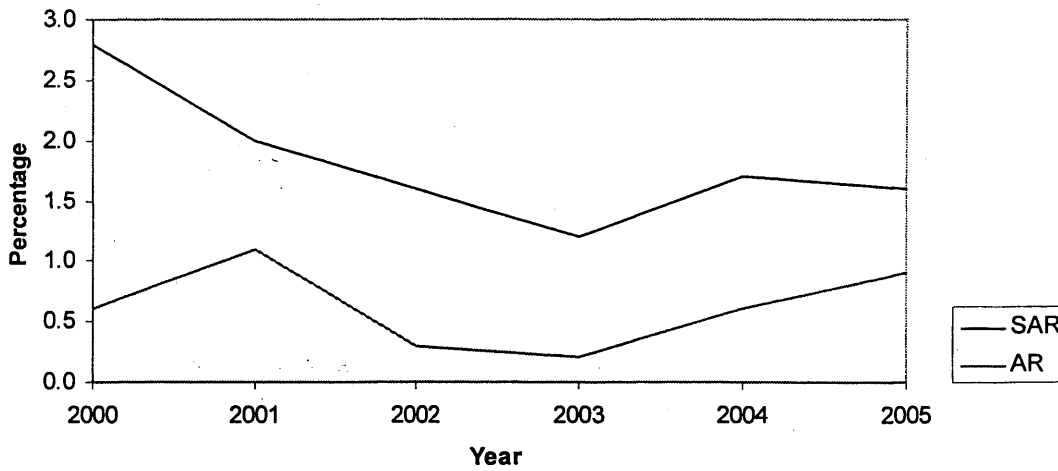
5.3.1.4 Background image

Table 5.6 presents detail related to background images in photographs presented in annual reports and stand-alone reports. The current study employs the same themes for the background images as that for the foreground images. These themes are (1) humans at a workplace; (2) humans not at a workplace; (3) a workplace; (4) a nature; (5) animals; and (6) others[81].

Overall, this study managed to identify the background images of only 39% (4,616 photographs) out of 11,821 photographs presented in stand-alone reports and annual reports. The reason was that some of the photographs did not have a pictorial background, or the background image was not sharp enough to be clearly identified[82]. The theme of a workplace is encountered in 51% of the photographs that this study examined, hence the most popular theme for background images. The theme of a nature is ranked in the second position (24%) while the theme of others is

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[81] The images in the foreground and background are similar to ensure a standardisation in categorising images in a photograph, thus enhancing the consistency of the data.
[82] An example is portrait photographs.

ranked in the third position (22%) of the most popular themes for the background image in photographs[83].

The results from a Mann-Whitney test suggested that there are significantly more photographs depicting background images of a workplace and a nature in stand-alone reports than in annual reports ($p < 0.01$)[84]. Also, a Mann-Whitney test suggested that there are significantly more photographs with background theme of animals in stand-alone reports than in annual reports ($p < 0.1$)[85]. The background theme of others was not tested due to its wide coverage and a limitation of time. Over time, a Mann-Whitney test suggested that there is no significant difference in the background images of a workplace or a nature between stand-alone reports and annual reports.

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[83] The researcher is unable to discuss the category of *others* in details due to its wide coverage. It is therefore suggested that this category be explored to greater detail in future research.

[84] Prior to the employment of the statistical test, the researcher examined the normality distributions of the data for the background categories. The S-W test indicates that the distributions of data for all categories except the category of animal are non-normal. As for the category of animals, only data in annual reports is normally distributed ($z(223) = -8.56$, ns) while that for stand-alone reports is non-normally distributed. As the comparisons involved both reports (stand-alone reports and annual reports), the non-normal data distributions suggested that the non-parametric test has to be employed. Concerning the category of a workplace, the mean rank is 251 for stand-alone reports and 196 for annual reports, hence a highly significant result ($p < 0.01$). As for the category of nature, the mean rank is 244 for stand-alone reports and 203 for annual reports, hence another highly significant result ($p < 0.01$).

[85] The significance value is weak as the difference in the mean rank between stand-alone reports and annual reports is small, namely 227 for the former and 221 for the latter.

Table 5.6 Details of background images of photographs in stand-alone reports and annual reports

Background subject	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
Workplace	108	85	141	132	256	203	268	267	304	140	280	168	1357	995	2352
[%]	[53.2]	[56.0]	[45]	[56.0]	[46.2]	[59.0]	[48.4]	[59.0]	[49.1]	[48.0]	[48.5]	[53.0]	[48.1]	[55.4]	[51.0]
pB	0.54		0.45		0.23		0.02 **		< 0.01 ***		0.01 ***		< 0.01 ***		-
pO	-		-		-		-		-		0.35	0.60	-		-
Nature	47	39	84	49	128	80	110	104	136	87	142	90	647	449	1096
[%]	[23.2]	[26.0]	[26.8]	[21.0]	[23.1]	[23.0]	[19.9]	[23.0]	[22.0]	[30.0]	[24.6]	[28.0]	[22.9]	[25.0]	[23.7]
pB	0.48		0.24		0.23		0.38		0.04 **		0.03 **		< 0.01 ***		-
pO	-		-		-		-		-		0.76	0.43	-		-
Humans at a workplace	3	2	3	1	8	1	6	6	18	4	6	6	44	20	64
[%]	[1.5]	[1.3]	[1.0]	[0.4]	[1.4]	[0.3]	[1.1]	[1.3]	[2.9]	[1.4]	[1.0]	[1.9]	[1.6]	[1.1]	[1.4]
pB	0.96		0.30		0.03 **		0.71		0.64		1.00		0.17		-
pO	-		-		-		-		-		0.81	0.84	-		-
Humans not at a workplace	2	0	2	7	5	5	7	9	5	3	5	3	26	27	53
[%]	[1.0]	-	[0.6]	[3.0]	[0.9]	[1.4]	[1.3]	[2.0]	[0.8]	[1.0]	[0.9]	[0.9]	[0.9]	[1.5]	[1.1]
pB	0.15		0.59		0.73		0.41		0.46		0.46		0.62		-
pO	-		-		-		-		-		0.97	0.26	-		-
Animals	5	0	0	2	0	0	2	1	3	1	2	0	12	4	16
[%]	[2.5]	-	-	[0.8]	-	-	[0.4]	[0.2]	[0.5]	[0.3]	[0.4]	-	[0.4]	[0.2]	[0.3]
pB	0.08 *		0.15		n.a		0.56		0.31		0.16		0.10 *		-
pO	-		-		-		-		-		0.11	-	-		-

(continued)

Table 5.6 (continued)

Background subject	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
Others	38	26	83	46	157	56	161	66	153	57	142	50	734	301	1035
[%]	[18.7]	[17.0]	[26.5]	[19.0]	[28.3]	[16.0]	[29.1]	[15.0]	[24.7]	[20.0]	[24.6]	[16.0]	[26.0]	[16.8]	[22.4]
All	203	152	313	237	554	345	554	453	619	292	577	317	2820	1796	4616
Total percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes: This table presents total number of background subjects of photographs in stand-alone reports and annual reports. The value in parenthesis is the percentage of photographs from the total. pB is the significance value of difference in the rankings of background subject of the two samples (SAR and AR) and pO is the significance value of that over time for the individual sample. ***, ** and * represent a significant value of pB respectively at the 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney test.

The following figures, Figures 5.4a – 5.4c, present the trend of the top three themes

for the background images in photographs – a workplace, nature, and others – based

on the percentage presented in stand-alone reports and annual reports.

Figure 5.4a The percentage of a workplace as a background image
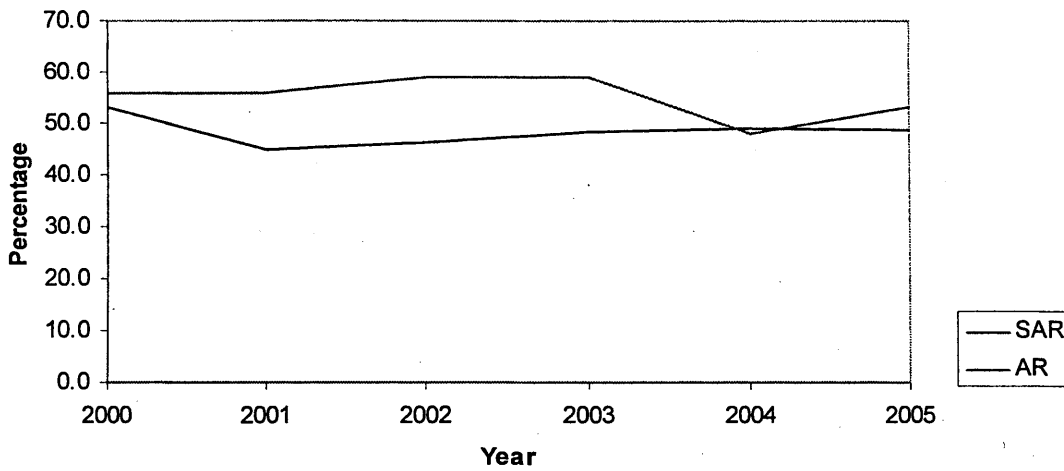
Figure 5.4b The percentage of a nature as a background image
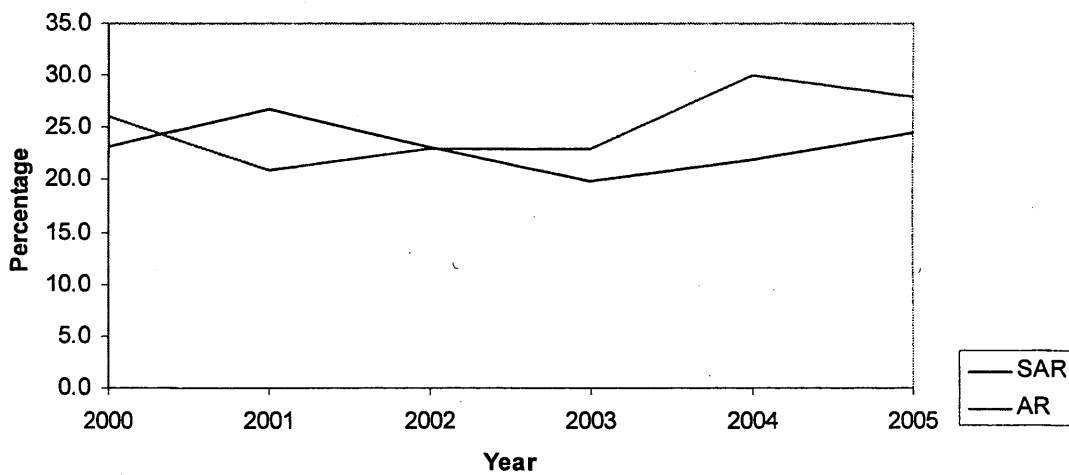
Figure 5.4c The percentage of others as a background image
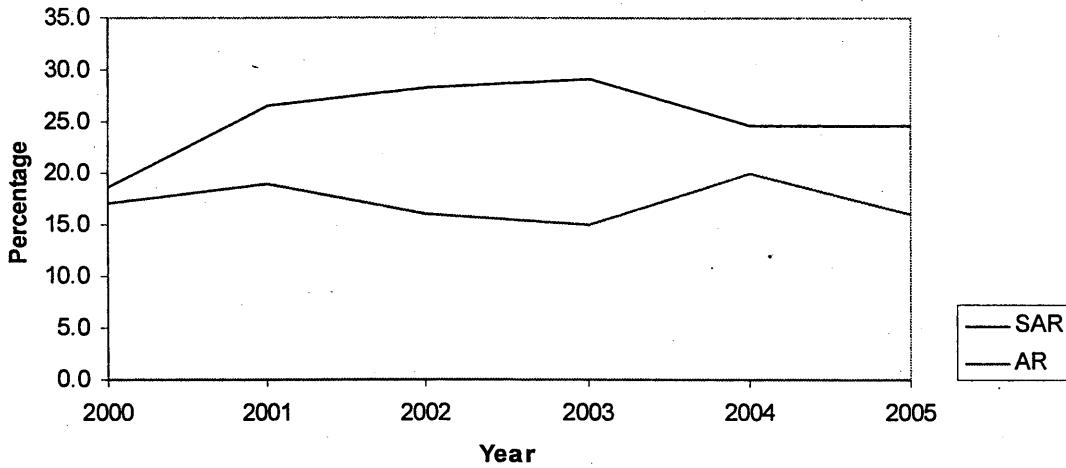
5.3.1.5 Human images in photographs

Table 5.7 presents the total photographs with foreground image of humans as well as non-humans, in the stand-alone reports and annual reports of the selected companies. Overall, photographs in stand-alone reports and annual reports feature more images of humans rather than non-humans. Out of 5,955 photographs presented in stand-alone reports from 2000–2005 inclusive, 63% (3,728 photographs) feature human images while 37% (2,227 photographs) feature non-human images. Similarly, from a total of 5,866 photographs presented in annual reports from 2000-2005 inclusive, 72% (4,212 photographs) feature human images while 28% (1,654 photographs) feature non-human images. A Mann-Whitney test was employed and the results indicated that there are significantly more photographs of human images than non-human images in stand-alone reports and in annual reports, both for the individual years as well as overall[86].

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[86] For the individual year involving stand-alone reports, the differences are significant only for 2003-2005 inclusive, but, the overall difference is significant at the 0.01 level in a two-tailed Mann-Whitney test. As for annual reports, the differences are significant at the 0.01 level for all the individual years.

Table 5.7 Humans and non-human images in the foreground of photographs

Foreground subject	2000		2001		2002		2003		2004		2005		Total	
	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR
Human subject	254	335	389	542	716	734	802	983	798	813	769	805	3728	4212
[%]	[59.2]	[64.7]	[59.6]	[71.3]	[64.3]	[72.1]	[63.6]	[73.4]	[65.7]	[68.8]	[59.9]	[76.7]	[62.6]	[71.8]
Non-human subjects	175	183	264	218	398	284	459	357	417	368	514	244	2227	1654
[%]	[40.8]	[35.3]	[40.4]	[28.7]	[35.7]	[27.9]	[36.4]	[26.6]	[34.3]	[31.2]	[40.1]	[23.3]	[37.4]	[28.2]
All photos	429	518	653	760	1114	1018	1261	1340	1215	1181	1283	1049	5955	5866
[%]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]
p	0.32	0.01**	0.20	< 0.01 ***	0.14	< 0.01 ***	< 0.01 ***	< 0.01 ***	0.01 **	0.01**	0.07 *	< 0.01 ***	< 0.01 ***	< 0.01 ***

Notes: This table presents total number of humans and non-human images in the foreground of photographs in stand-alone reports and annual reports. Their percentages are accordingly presented. p is the significance value of difference in the rankings of total photographs of human and non-human subjects.

***, ** and * represents significant value of p at the 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney test.

Table 5.8 presents total photographs with human images presented in the stand-alone reports and annual reports[87]. There are four categories of human images in photographs. They are, (1) men; (2) women; (3) children; and (4) a combine group[88]. Altogether, 67% of the photographs (7,940 photographs) presented in both the stand-alone reports and annual reports from 2000–2005, inclusive, feature humans as the foreground images, either at a workplace or not at a workplace. Out of these 7,940 photographs, 47% (3,728 photographs) are presented in stand-alone reports, while 53% (4,212 photographs) are presented in annual reports. Overall, a total of 27 photographs[89] with human figures as the foreground images were treated as non-classified. This is because the researcher faced some difficulties in identifying the appropriate category clearly for the respective foreground image. Most of these cases involved humans being photographed wearing a special costume, such as a clown, or a Walt Disney cartoon character, to name a few.

'Men' category appears to be the most popular category of human images in photographs as demonstrated by 62% (4,894 photographs) out of 7,940 photographs of humans as the foreground images. Out of 4,894 photographs, 63% (3,085 photographs) involved photographs presented in the annual reports, while 37% (1,809 photographs) are presented in the stand-alone reports. The categories of a combine group, and women are placed in the second and third positions, respectively, in the ranking of the most popular category of human images in photographs. The combine group category accounted for 19% (1,511 photographs), while the women category covers 14% (1,144 photographs) out of 7,940 photographs depicting humans as the foreground images.

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[87] The discussion on human images in photographs involved only humans portrayed in the foreground of a photograph.
[88] This refers to groups of different gender regardless of their composition. The combination can be between men and women, men and children, women and children or even all of the categories (men, women and children) at once.
[89] This includes both the stand-alone reports and the annual reports.

Table 5.8 Human images in photographs

Subject	2000 SA	2000 AR	2001 SA	2001 AR	2002 SA	2002 AR	2003 SA	2003 AR	2004 SA	2004 AR	2005 SA	2005 AR	Total SA	Total AR	All
N	19	19	28	28	38	38	46	46	46	46	46	46	223	223	446
Gentlemen	131 [6.9]	252 [13.3]	187 [6.7]	420 [15.0]	325 [8.6]	529 [13.9]	410 [8.9]	649 [14.1]	378 [8.2]	632 [13.7]	378 [8.2]	603 [13.1]	1809 [8.1]	3085 [13.8]	4894 [61.6]
Ladies	22 [1.2]	33 [1.7]	56 [2.0]	55 [2.0]	101 [2.7]	87 [2.3]	131 [2.9]	163 [3.5]	163 [3.5]	90 [2.0]	135 [2.9]	108 [2.4]	608 [2.7]	536 [2.4]	1144 [14.4]
Children	13 [0.7]	9 [0.5]	39 [1.4]	8 [0.3]	78 [2.1]	24 [0.6]	65 [1.4]	25 [0.5]	38 [0.8]	9 [0.2]	43 [0.9]	13 [0.3]	276 [1.2]	88 [0.4]	364 [4.6]
Combined group	88 [4.6]	40 [2.1]	97 [3.5]	58 [2.1]	208 [5.5]	91 [2.4]	194 [4.2]	146 [3.2]	216 [4.7]	82 [1.8]	210 [4.6]	81 [1.8]	1013 [4.5]	498 [2.2]	1511 [19.0]
Non-classified	0	1 [0.3]	10 [2.6]	1	4 [0.6]	3	2 [0.3]	0	3 [0.4]	0	3 [0.4]	0	22 [0.6]	5 [0.1]	27 [0.4]
All	254	335	389	542	716	734	802	983	798	813	769	805	3728	4212	7940

Notes: This table presents total photographs that pictured human subjects in stand-alone reports and annual reports. The figure in parenthesis is the mean va of total number of photographs involved.

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A Mann-Whitney test was employed to examine the difference in the number of photographs presented for all the four categories of human images in the foreground between the stand-alone reports and the annual reports[90]. Overall, the results of a Mann-Whitney test suggested that there are significant differences in the number of human images in the foreground of photographs between the stand-alone reports and the annual reports for the three categories ($p<0.01$). These categories are a combine group, children and men. When it concerns the categories of a combine group and children, the result of a Mann-Whitney test suggested that the photographs are presented significantly more frequently in the stand-alone reports than in annual reports[91]. By contrast, photographs depicting men as the foreground images are presented significantly more often in annual reports than in stand-alone reports[92] . The difference in the number of women in photographs between stand-alone reports and annual reports was found to be not significant.

Apparently, the percentage of photographs of women in stand-alone reports increased from 9% in 2000 to 18% in 2005. However, a Mann-Whitney test produced a non-significant result, suggesting that there is no significant different in the number of photographs of women as foreground images presented in stand-alone reports over time ($p>0.1$). Where the number of photographs presented over time involved the 'children' category, only annual reports produced a significant result, indicating a significant decrease in the number of photographs of children in the foreground presented in annual reports over time ($p=0.10$).

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[90] The results of the K-S test indicated that the data distributions for all categories of human in photographs are non-normal.

[91] For the category of a combine group, the average rank is 259 for stand-alone reports, compared to 188 for annual reports. The average rank for the Children category is 254 for stand-alone reports, and 193 for annual reports.

[92] The average rank for annual reports and stand-alone reports are respectively 249 and 198.

The results of a Mann-Whitney test for the individual years indicated that photographs depicting foreground images of a combine group[93] and children[94] are presented significantly more frequently in stand-alone reports than in annual reports. By contrast, photographs of men as a foreground image are presented significantly more in annual reports than in stand-alone reports[95].

Further, the current study examined photographs involving the men and women categories. The purpose of this investigation is to compare the various combinations of men and women in photographs, photographed individually or in group. Altogether, there are a total of 6,038 (76%) photographs with foreground images that fall under the categories of men and women. From this total, 40% (2,417 photographs) out of 6,038 photographs are presented in stand-alone reports, while another 60% (3,621 photographs) are presented in annual reports. There are more photographs of men category (81% or 4,894 photographs) as compared to that of women category (19% or 1,144 photographs).

Table 5.9 presents detail involving the 6,038 photographs featuring men (males) and women (females) in stand-alone reports and annual reports. Overall, more photographs of a single man (82% or 4023 photographs) or a single woman (81% or 926 photographs) are presented as compared to photographs of a group of men (18%) or women (19%). A similar situation is reflected in the case of annual reports where more photographs of a single man (89% or 2749 photographs) or a single woman (91% or 487 photographs) are presented as compared to photographs of a group of men (11%) or women (9%). Similarly, stand-alone reports are also found to have presented more photographs of a single man (70% or 1274 photographs) or a

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[93] Since 2002 (see Table 5.8)
[94] Since 2001 (see Table 5.8)
[95] This is true for 2001, 2004 and 2005.

single woman (72% or 439 photographs) as compared to photographs of a group of

men (30%) or women (28%).

Table 5.9 Distributions of males and females in photographs

No	2000 M SA	2000 M AR	2000 F SA	2000 F AR	2001 M SA	2001 M AR	2001 F SA	2001 F AR	2002 M SA	2002 M AR	2002 F SA	2002 F AR	2003 M SA	2003 M AR	2003 F SA	2003 F AR	2004 M SA	2004 M AR	2004 F SA	2004 F AR	2005 M SA	2005 M AR	2005 F SA	2005 F AR	Total M SA	Total M AR	Total F SA	Total F AR	All M	All F
EQ1	96	220	11	27	113	383	35	52	229	457	69	78	312	576	100	148	263	566	121	81	261	547	103	101	1274	2749	439	487	4023	926
	[73.3]	[87.3]	[50.0]	[81.8]	[60.4]	[91.2]	[62.5]	[94.5]	[70.5]	[86.4]	[68.3]	[89.7]	[76.1]	[88.8]	[76.3]	[90.8]	[69.6]	[89.6]	[74.2]	[90.0]	[69.0]	[90.7]	[76.3]	[93.5]	[70.4]	[89.1]	[72.2]	[90.9]	[82.2]	[80.9]
pB	0.10 *		0.17		0.01 ***		0.33		0.03 **		0.97		0.05 **		0.49		0.03 **		0.44		0.02 **		0.85		<0.01 ***		0.43			
pO																					0.76	0.93	0.02 *	0.31						
MT1	35	32	11	6	74	37	21	3	96	72	32	9	98	73	31	15	115	66	42	9	117	56	32	7	535	336	169	49	871	218
	[26.7]	[12.7]	[50.0]	[18.2]	[39.6]	[8.8]	[37.5]	[5.5]	[29.5]	[13.6]	[31.7]	[10.3]	[23.9]	[11.2]	[23.7]	[9.2]	[30.4]	[10.4]	[25.8]	[10.0]	[31.0]	[9.3]	[23.7]	[6.5]	[29.6]	[10.9]	[27.8]	[9.1]	[17.8]	[19.1]
pB	0.10 *		0.19		0.09 *		<0.01 ***		0.04 **		0.07 *		0.08 *		0.03 **		0.02 **		<0.01 ***		<0.01 ***		<0.01 ***		<0.01 ***		<0.01 ***			
pO																					0.82	0.94	0.82	0.25						
All	131	252	22	33	187	420	56	55	325	529	102	87	410	649	131	163	378	632	163	90	380	605	137	109	1809	3085	608	536	4894	1144.4

Notes: This table presents the distribution of male gender and female gender in photographs of stand-alone reports and annual reports. The figure in parenthesis is the percentage of photographs out of the total photographs involving gender. EQ1 refers to one subject while MT1 refers to more than one subjects. pB is the value of mean rankings of gender between stand-alone reports and annual reports and pO is the value of mean rankings of gender over time in the Mann-Whitney test. ***, ** and * represent a significant different in the mean rankings respectively at the 0.01, 0.05 and 0.1 in Mann-Whitney test.

Subsequently, the current study compared the number of photographs depicting men and women between annual reports and stand-alone reports [96]. A Mann-Whitney test was employed due to the non-normal distribution of data[97]. The results indicated that overall, there are significantly more photographs of men than women, either individually or in groups (p<0.01)[98]. Also, there are significantly more photographs of a man in annual reports than that in stand-alone reports (p<0.01)[99]. Further, there are significantly more photographs of men[100] as well as women[101] in the stand-alone reports than in annual reports. The results from a Mann-Whitney test suggested that the difference in the number of photographs of a single woman between stand-alone reports and annual reports is not significant (p>0.1).

A Mann-Whitney test was also employed to investigate the difference in the number of photographs of a man or a woman between annual reports and stand-alone reports for the individual years. When a statistical test involving photographs of a man or a woman is concerned, only an analysis involving photographs of a man produced significant results. Related to this, there are significantly more photographs of a man in annual reports than in stand-alone reports. By contrast, the result of the analysis suggested that the number of photographs depicting a woman between annual reports and stand-alone reports is not significantly different. As for humans photographed individually or in groups, a Mann-Whitney tests indicated that, in general, there are significantly more group photographs of men or women as

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[96] There are all together four potential comparison, namely, one man; one women; two or more men; and two or more women, between annual reports and stand-alone reports. The reason for the test is to examine which category is presented more in which report.

[97] The results of the K-S test indicated that the data distribution of men category is not normal but for women category, the distribution was normal (p>0.05 for both stand-alone reports and annual reports). The current study re-tested the normality distribution of data for women using the S-W test and the result indicated that the distribution was not normal (p<0.01).

[98] The average rank of a man in photographs is 557 while the average rank of a woman in photographs is 335. When it involved a group, the average rank of a group of men in photographs is 516 while for the group of women in photographs, the average rank is 375.

[99] When it concerns photographs of a man, the average rank for annual reports is 256 and that for stand-alone reports is 191.

[100] The average rank for stand-alone reports is 253, while that for annual reports is 194.

[101] The average rank for stand-alone reports is 252, while that for annual reports is 195.

compared to those of a single man or a single woman in stand-alone reports than in annual reports from 2000 - 2005[102], inclusive.

The subsequent test involved photographs of men and women between annual reports and stand-alone reports. Results of a Mann-Whitney test indicated that there are significantly more photographs of men than women in annual reports (p<0.01)[103]. Also, there are significantly more photographs of men than women in stand-alone reports (p<0.01)[104]. Thus, both hypotheses H_{6a} and H_{6b} were supported.

Figures 5.5a – 5.5d present line graphs to show the trend in the photographs of men women, children, and a combine group presented in stand-alone reports and annual reports.

Figure 5.5a Photographs of men in stand-alone reports and annual reports

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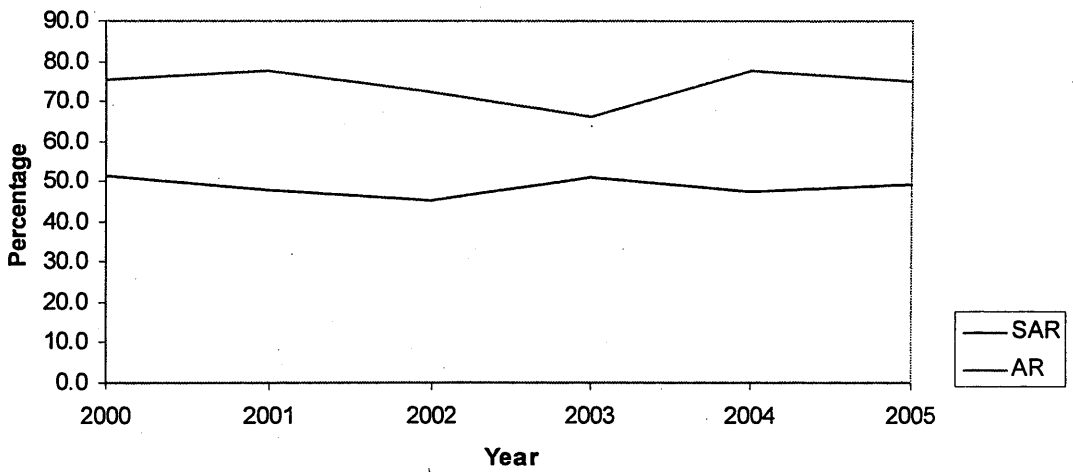
[102] The only insignificant result involved the photographs of a group of women in stand-alone reports and annual reports for 2000. The result indicates that there is no significant difference in the number of photographs of a group of women between annual reports and stand-alone reports for 2000.
[103] The average in the rankings of photographs of men is 283, while that for women is 164.
[104] The average in the rankings of photographs of men is 280, while that for women is 167.

Figure 5.5b Photographs of women in stand-alone reports and annual reports
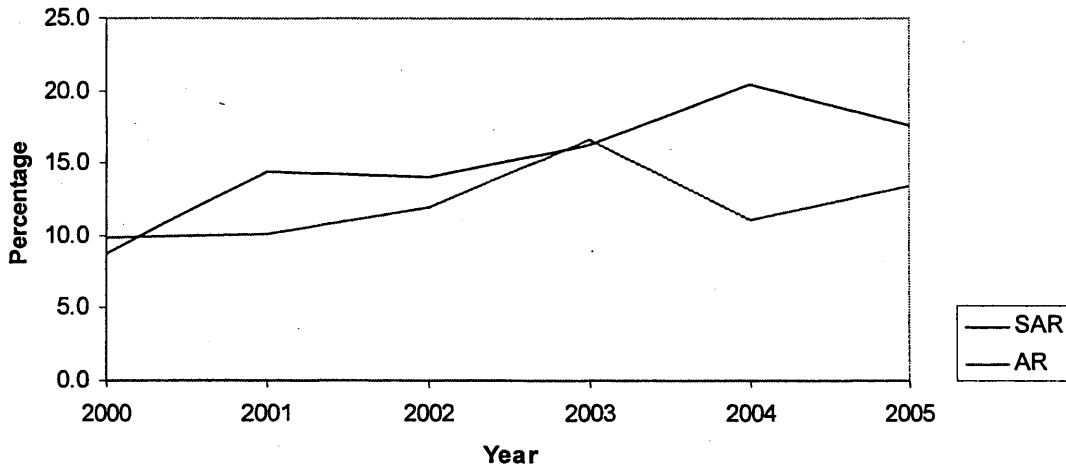
Figure 5.5c Photographs of children in stand-alone reports and annual reports
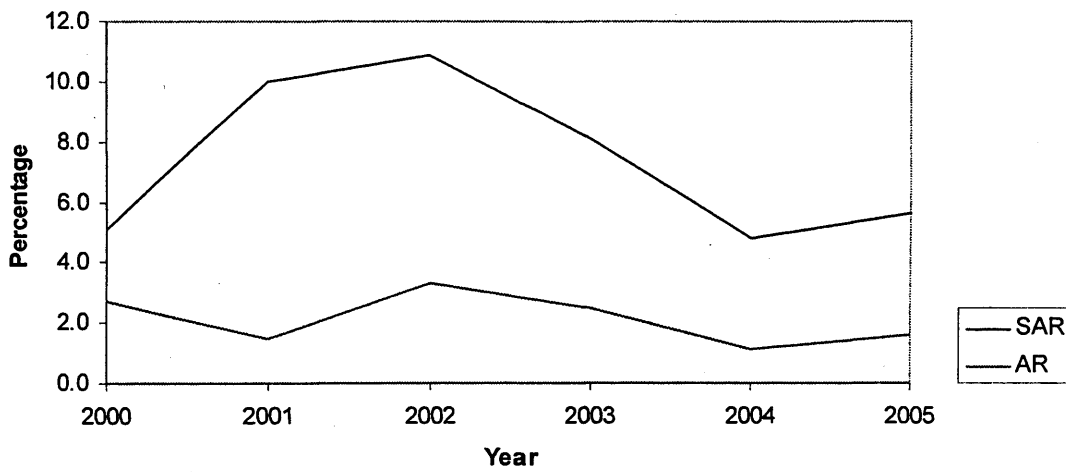
Figure 5.5d Photographs of a combine group in stand-alone reports and annual reports
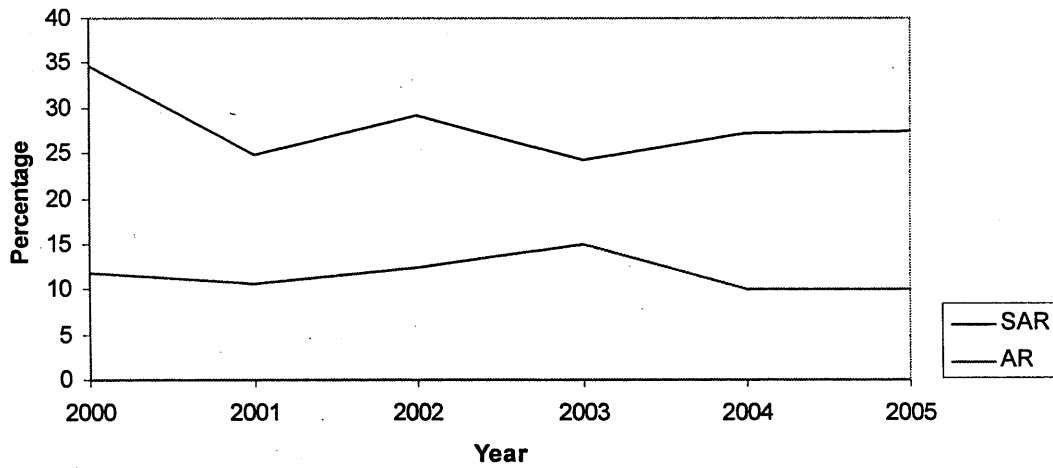
5.3.1.6 Portrait photographs

Portrait photographs in this study refer to photographs that portray a close-up image

of a human[105]. A close-up image in the context of this study refers to the focus given

by the photographer to the human figures in the foreground to the extent that the

image in the foreground becomes more appealing. Samples of portrait photographs

are presented below in Plate 5.3 and Plate 5.4.

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[105] In this study, photographs in annual reports and stand-alone reports that portray a close-up image of an animal (see, for example, British Sky Broadcasting Group plc, Corporate Responsibility Review 2004-2005) are not included.

Plate 5.3   Portrait photograph of a man

(Source: Standard Chartered Annual Report and Accounts 2005 (original in colour))

Plate 5.4   Portrait photograph of a group of men

(Source: Scottish & Newcastle plc Report and Accounts December 2003)

Table 5.10 presents total portrait photographs in stand-alone reports and annual reports. Apparently, 41% (4,824 photographs) out of 11,821 photographs analysed in the current study are portrait photographs. Out of 4824 portrait photographs, 40% (1,950 photographs) are presented in stand-alone reports and 60% (2,874 photographs) are presented in annual reports. A Mann-Whitney test was employed to examine the difference in the number of portrait photographs between annual reports and stand-alone reports[106]. The results indicated that, overall, there are significantly more portrait photographs in annual reports than in stand-alone reports ($p<0.01$)[107], thus supporting hypothesis H_5. A Mann-Whitney test for the individual years also produced some significant results[108].

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[106] The Mann-Whitney test is employed due to the non-normal distribution of data concerning portrait photographs for stand-alone reports (D(223)=-0.31, p<0.01)

[107] The average rank of portrait photographs in annual reports is 248, and that for stand-alone reports is 199.

[108] The results are significant for 2000, 2001 and 2004. As for the other years, the number of portrait photographs is presented more in the annual reports as compared to the stand-alone reports but the difference in the number between these two reports is not statistically significant.

Table 5.10 Details of portrait photographs

<div style="text-align: right">(continued)</div>

Descriptions	2000			2001			2002		
	SAR	AR	All	SAR	AR	All	SAR	AR	All
Total portrait	124	256	380	198	447	645	397	564	961
pB		0.08 *	-		0.03 **	-		0.20	-
pO		-	-		-	-		-	-
Total photographs	429	518	947	653	760	1413	1114	1018	2132
Percentage	28.9	49.4	40.1	30.3	58.8	45.6	35.6	55.4	45.1

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Table 5.10 (continued)

Descriptions	2003			2004			2005			Total		
	SAR	AR	All	SAR	AR	All	SAR	AR	All	SAR	AR	All
Total portrait	484	728	1212	458	688	1146	487	638	1125	1950	2874	4824
pB	0.18		-	0.07 *		-	0.17		-	< 0.01 ***		-
pO	-		-	-		-	0.22	0.87	-	-		-
Total photographs	1261	1340	2601	1215	1181	2396	1283	1049	2332	5955	5866	11821
Percentage	38.4	54.3	46.6	37.7	58.3	47.8	38.0	60.8	48.2	32.75	49.0	40.8

Notes: This table presents the total number of portrait photographs in stand-alone reports (SAR) and annual reports (AR). In particular, the total number of portrait, total photographs and percentages of portrait from the total are shown. pB is the significance value of difference in the rankings of total number of portrait photographs of the two samples (SAR and AR) and pO is the significance value of that over time for the individual sample. ***, ** and * represents a significant value of pB respectively at 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney Test.

Over the years, portrait photographs increased consistently in terms of percentages. This trend is observed for both the stand-alone reports and annual reports. In 2000, the total portrait photographs in stand-alone reports and annual reports are, respectively, 29% and 49%. Although the total portrait photographs in stand-alone reports and annual reports in 2005 had increased to 38% and 61%, respectively, results from a Mann-Whitney test indicated that the increase in the number of portrait photographs is not statistically significant for both stand-alone reports and annual reports.

The following figure, Figure 5.6, presents a line graph to show the trend in the portrait photographs presented in stand-alone reports and annual reports.

Figure 5.6 Portrait photographs in stand-alone reports and annual reports
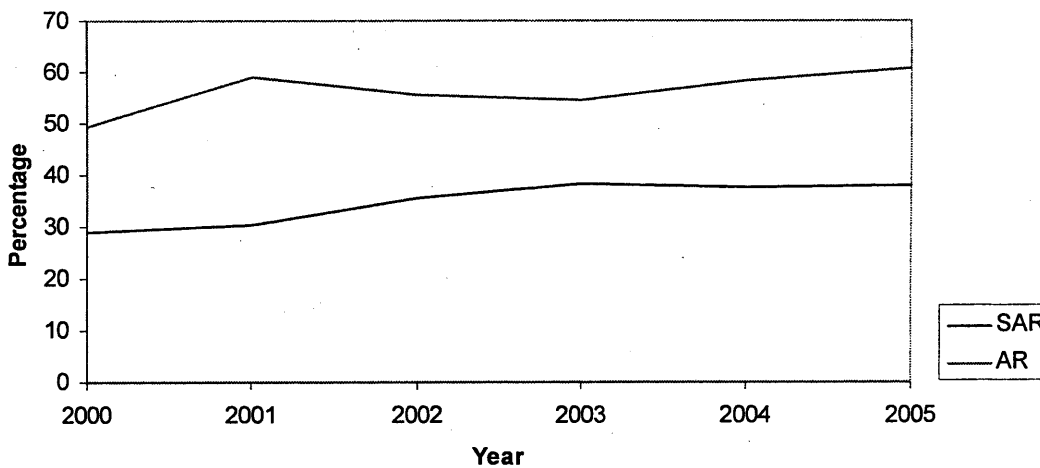
5.3.2 Graphs

This section presents the findings related to graphs presented in stand-alone reports and annual reports of the sample companies. Graphs in this study were examined from four different perspectives. They are (1) total number of graphs in stand-alone

reports and annual reports, (2) size of graphs in stand-alone reports, (3) percentage of environmental graphs in stand-alone reports, and (4) themes of environmental graphs.

5.3.2.1 Total number

Table 5.11 presents detail distributions of graphs in stand-alone reports and annual reports. Overall, there are a total of 6,062 graphs, where 44% (2,690 graphs) of this total were presented in stand-alone reports, while 56% (3,372 graphs) were presented in annual reports. There are however, 26 stand-alone reports and 4 annual reports with no graphs. This suggested that graphs are more likely to be presented, rather than, not presented in annual reports and stand-alone reports. Also, graphs are more likely to be presented in annual reports, rather than, in stand-alone reports. Overall, the popular range of graphs presented in the stand-alone reports is between 11 and 15 inclusive (22%, or 49 reports), whereas for the annual reports, the popular range is between 1 and 5 inclusive (26%, or 58 reports). Only 28% of stand-alone reports and 35% of annual reports presented 16 graphs or more. Indirectly, this means that stand-alone reports and annual reports are more likely to present 15 graphs or less. This is reflected to a certain extent in the mean of the overall number of graphs in stand-alone reports and annual reports, which are 12.1 and 15.1 respectively[109]. That said, the mean number of graphs presented in a graph-using stand-alone reports and annual reports are 13.7 and 15.4, respectively. Over time, the mean number of graphs in stand-alone reports appears to decrease from 14.1 in 2000, to 12.9 in 2005. By contrast, the mean number of graphs in annual reports over time appears to increase from 14.5 in 2000, to 16.9 in 2005.

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[109] This figure is arrived at by dividing the total graphs by the total number of reports, which is 223. This total number of reports also includes reports with no graphs. For example in the case of stand-alone reports, total graphs presented within the period of 6 years (2000-2005 inclusive) are 2690. Therefore, the average number of graphs per report is 2690 divided by 223.

Table 5.11 Detail distributions of graphs in stand-alone reports and annual reports

No	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
No graph	4	1	2	3	5	0	6	0	5	0	4	0	26	4	30
[%]	[21.1]	[5.3]	[7.1]	[10.7]	[13.2]	-	[13.0]	-	[10.9]	-	[8.7]	-	[11.7]	[1.8]	[6.7]
1 - 5	3	5	5	5	7	12	10	16	7	10	7	10	39	58	97
[%]	[15.8]	[26.3]	[17.9]	[17.9]	[18.4]	[31.6]	[21.7]	[34.8]	[15.2]	[21.7]	[15.2]	[21.7]	[17.5]	[26.0]	[21.7]
6 - 10	5	3	8	4	7	4	9	5	8	14	10	11	47	41	88
[%]	[26.3]	[15.8]	[28.6]	[14.3]	[18.4]	[10.5]	[19.6]	[10.9]	[17.4]	[30.4]	[21.7]	[23.9]	[21.1]	[18.4]	[19.7]
11 - 15	1	2	6	5	8	8	11	10	12	10	11	7	49	42	91
[%]	[5.3]	[10.5]	[21.4]	[17.9]	[21.1]	[21.1]	[23.9]	[21.7]	[26.1]	[21.7]	[23.9]	[15.2]	[22.0]	[18.8]	[20.4]
16 - 20	2	3	3	5	2	5	4	3	7	2	6	8	24	26	50
[%]	[10.5]	[15.8]	[10.7]	[17.9]	[5.3]	[13.2]	[8.7]	[6.5]	[15.2]	[4.3]	[13.0]	[17.4]	[10.8]	[11.7]	[11.2]
21 - 25	1	1	2	0	2	1	3	4	4	2	4	2	16	10	26
[%]	[5.3]	[5.3]	[7.1]	-	[5.3]	[2.6]	[6.5]	[8.7]	[8.7]	[4.3]	[8.7]	[4.3]	[7.2]	[4.5]	[5.8]
26 - 30	0	1	0	3	6	3	3	3	1	4	2	2	12	16	28
[%]	-	[5.3]	-	[10.7]	[15.8]	[7.9]	[6.5]	[6.5]	[2.2]	[8.7]	[4.3]	[4.3]	[5.4]	[7.2]	[6.3]

(continued)

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Table 5.11 (continued)

No	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
31 - 35	1	2	1	2	0	1	0	1	1	0	1	1	4	7	11
[%]	[5.3]	[10.5]	[3.6]	[7.1]	-	[2.6]	-	[2.2]	[2.2]	-	[2.2]	[2.2]	[1.8]	[3.1]	[2.5]
> 35	2	1	1	1	1	4	0	4	1	4	1	5	6	19	25
[%]	[10.5]	[5.3]	[3.6]	[3.6]	[2.6]	[10.5]	-	[8.7]	[2.2]	[8.7]	[2.2]	[10.9]	[2.7]	[8.5]	[5.6]
N	2019	19	2029	28	2040	38	2049	46	2050	46	2051	46	223	223	446
Total graphs	267	275	324	400	463	580	468	677	573	664	595	776	2690	3372	6062
Total percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	14.1	14.5	11.6	14.3	12.2	15.3	10.2	14.7	12.5	14.4	12.9	16.9	12.1	15.1	13.6
Std dev	18.3	12.1	9.7	12.0	10.4	12.4	8.3	13.0	9.2	12.9	10.1	18.3	10.5	13.8	12.4
Min	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0
Max	67	37	41	47	36	47	30	51	43	52	53	110	67	110	110
pB	0.40		0.49		0.22		0.11		0.91		0.43		0.03 **		-
pO	-		-		-		-		-		0.39	0.79	-		-

Notes: This table presents total number of stand-alone reports (SAR) and annual reports (AR) with graphs. In particular, total graphs, mean and standard deviation are shown. The minimum and maximum number of graphs in reports are included. pB is the significance value of difference in the rankings of total number of graphs of the two samples (SAR and AR) and pO is the significance value of that over time for the individual sample. ** represents a significant value of pB at the 0.05 level in a two-tailed Mann-Whitney Test.

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The difference in the number of graphs presented in the stand-alone reports and annual reports was tested using a Mann-Whitney test[110]. The results indicated that there is a significant difference in the number of graphs presented between stand-alone reports and annual reports (p=0.03)[111]. Related to this, annual reports appear to have presented significantly more graphs than the stand-alone reports. Thus, hypothesis H_{7c} is not supported.

Further, a Mann-Whitney test was employed to examine the difference in the number of graphs presented in the stand-alone reports versus the annual reports for the individual years as well as over time. In all cases, there were no significant results encountered. Therefore, hypotheses H_{7a} and H_{7b} are supported.

Figure 5.7 presents a line graph to show the trend in the average number of graphs presented in stand-alone reports and annual reports.

Figure 5.7 The average number of graphs in stand-alone reports and annual reports

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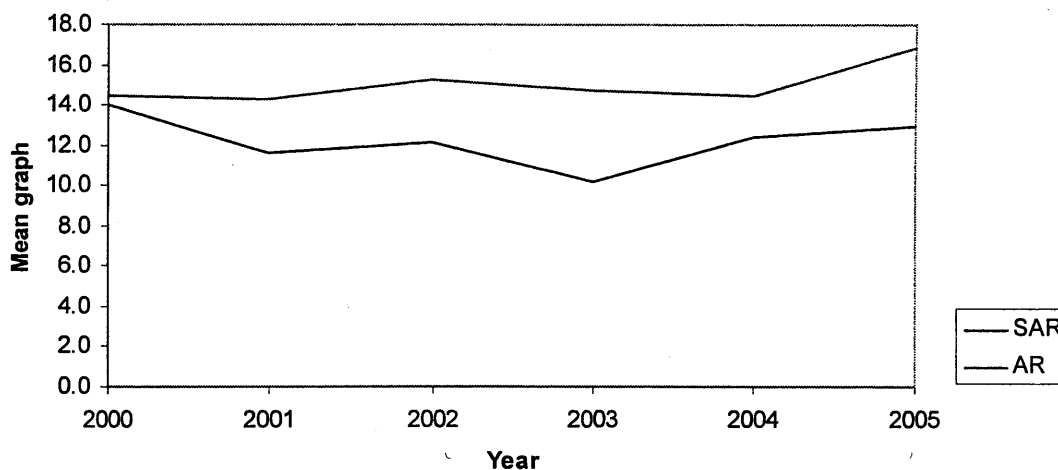
[110] This non-parametric test was used since one of the data (total number of graphs in stand-alone reports) was non-normally distributed. The is because the results of the K-S test showed that the distribution of data for annual reports, D(223)=0.0045, ns is normally distributed, and for stand-alone reports, D(223)=-0.1031, p=0.09 indicates that the data is not normally distributed.
[111] The mean ranking of total graphs in stand-alone reports was 211, while the mean ranking of total graphs in annual reports was 237.

5.3.2.2 Size

Table 5.12 presents the range for sizes of graphs presented in stand-alone reports. Overall, 42% (94 reports) out of 223 stand-alone reports presented graphs in the range between 0.26 and 0.75 of a page. The most popular range of size of graphs is between 0.26 and 0.5 of a page, as demonstrated in 22% (49 reports) out of 223 stand-alone reports. However on the overall, the mean size of graphs in stand-alone report is 0.7 of a page.

Table 5.12 Details on size of graphs in stand-alone reports

Pages	2000		2001		2002		2003		2004		2005		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
No graph	4	21.1	2	7.1	5	13.2	6	13.0	5	10.9	4	8.7	26	11.7
<= 0.25	2	10.5	4	14.3	8	21.1	7	15.2	4	8.7	4	8.7	29	13.0
0.26 - 0.50	5	26.3	6	21.4	6	15.8	13	28.3	7	15.2	12	26.1	49	22.0
0.51 - 0.75	2	10.5	6	21.4	4	10.5	7	15.2	15	32.6	11	23.9	45	20.2
0.76 - 1.00	3	15.8	3	10.7	3	7.9	4	8.7	3	6.5	2	4.3	18	8.1
1.01 - 1.25	0	-	3	10.7	3	7.9	5	10.9	3	6.5	2	4.3	16	7.2
1.26 - 1.50	1	5.3	0	-	4	10.5	2	4.3	4	8.7	2	4.3	13	5.8
1.51 - 1.75	0	-	1	3.6	1	2.6	2	4.3	0	-	2	4.3	6	2.7
1.76 - 2.00	1	5.3	2	7.1	1	2.6	-	-	3	6.5	1	2.2	8	3.6
2.01 - 2.25	0	-	0	-	1	2.6	-	-	1	2.2	1	2.2	3	1.3
2.26 - 2.50	0	-	0	-	0	-	-	-	1	2.2	4	8.7	5	2.2
> 2.50	1	5.3	1	3.6	2	5.3	-	-	-	-	1	2.2	5	2.2
N	19	100	28	100	38	100	46	100	46	100	46	100	223	100
Mean	0.7	-	0.7	-	0.8	-	0.6	-	0.8	-	0.8	-	0.7	-
Std dev	0.8	-	0.6	-	0.9	-	0.5	-	0.6	-	0.8	-	0.7	-
Max	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Min	3.4	-	2.8	-	4.7	-	1.7	-	2.4	-	2.8	-	4.7	-

Notes: This table presents total number of stand-alone reports focusing on the size of graphs. In particular, the number of reports and percentages are shown.

5.3.2.3 G3-specified graphs

Table 5.13 presents the percentages of graphs in stand-alone reports, where their titles fall into one of the nine environmental themes specified in the G3 Guidelines of the Global Reporting Initiative (GRI) Sustainability Reporting Framework[112]. Overall, 50% (1,335 graphs) out of 2,690 graphs presented in stand-alone reports fall within these specified themes. This means that on average, stand-alone reports presented 50% of G3-specified graphs, while another 50% of the graphs presented are not G3-specified. That said, there is no environmental graph presented in 23% (52 reports) out of 223 stand-alone reports.

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[112] These nine categories in the context of this study are: materials; energy; water; biodiversity; emissions, effluents and waste; products and services; compliance; transport; and overall. More details are available on the Global Reporting Initiative website, www.globalreporting.org

Table 5.13 Details on environmental graphs in stand-alone reports

Percent	2000 No	2000 %	2001 No	2001 %	2002 No	2002 %	2003 No	2003 %	2004 No	2004 %	2005 No	2005 %	All No	All %
Nil	7	36.8	4	14.3	11	28.9	13	28.3	10	21.7	7	15.2	52	23.3
1 - 10	0	-	0	-	0	-	1	2.2	0	-	2	4.3	3	1.3
11 - 20	0	-	2	7.1	0	-	1	2.2	2	4.3	1	2.2	6	2.7
21 - 30	0	-	2	7.1	6	15.8	5	10.9	3	6.5	4	8.7	20	9.0
31 - 40	1	5.3	1	3.6	2	5.3	5	10.9	7	15.2	9	19.6	25	11.2
41 - 50	0	-	3	10.7	4	10.5	3	6.5	6	13.0	8	17.4	24	10.8
51 - 60	1	5.3	3	10.7	3	7.9	5	10.9	3	6.5	0	-	15	6.7
61 - 70	1	5.3	2	7.1	2	5.3	3	6.5	9	19.6	4	8.7	21	9.4
71 - 80	3	15.8	2	7.1	2	5.3	2	4.3	2	4.3	7	15.2	18	8.1
81 - 90	2	10.5	2	7.1	1	2.6	3	6.5	1	2.2	3	6.5	12	5.4
91 - 100	4	21.1	7	25.0	7	18.4	5	10.9	3	6.5	1	2.2	27	12.1
All	19	100	28	100	38	100	46	100	46	100	46	100	223	100
Mean	0.5	-	0.6	-	0.5	-	0.4	-	0.5	-	0.5	-	0.5	-
Std dev	0.4	-	0.4	-	0.7	-	0.4	-	0.3	-	0.3	-	0.3	-

Notes: This table presents the percentages of environmental graphs from the total graphs in stand-alone reports. In particular, total number of stand-alone reports and percentages are shown.

Table 5.14 presents all the nine environmental themes of G3-specified graphs in stand-alone reports. As stated in the preceding discussion, 50% (1335 graphs) out of 2690 graphs presented in stand-alone reports are G3-specified graphs. Of these 1335 graphs, emissions, effluents and waste; energy; and water; are the top three positions in the ranking of the most popular G3-specified themes. Related to this, 54% (715 graphs) out of 1335 G3-specified graphs are on emissions, effluents and waste; 18% (243 graphs) are on energy; and 13% (176 graphs) are on water. The lowest three positions in the ranking of the most popular G3 specified environmental themes are products and services (1.7%), compliance (1.8%), and biodiversity (2.1%).

Table 5.14 The environmental themes of environmental graphs in stand-alone reports

Environmental themes	2000 No	2000 %	2001 No	2001 %	2002 No	2002 %	2003 No	2003 %	2004 No	2004 %	2005 No	2005 %	Total No	Total %
Emissions, affluent and waste	82	52.2	97	52.4	129	50.8	117	53.2	142	54.2	148	57.6	715	53.6
Energy	23	14.6	32	17.3	50	19.7	47	21.4	49	18.7	42	16.3	243	18.2
Water	20	12.7	17	9.2	31	12.2	26	11.8	42	16.0	40	15.6	176	13.2
Overall	5	3.2	5	2.7	11	4.3	7	3.2	13	5.0	11	4.3	52	3.9
Material	10	6.4	9	4.9	8	3.1	6	2.7	4	1.5	5	1.9	42	3.1
Transport	6	3.8	9	4.9	7	2.8	4	1.8	4	1.5	2	0.8	32	2.4
Biodiversity	10	6.4	4	2.2	2	0.8	4	1.8	3	1.1	5	1.9	28	2.1
Compliance	1	0.6	4	2.2	9	3.5	4	1.8	3	1.1	3	1.2	24	1.8
Product and services	0	0.0	8	4.3	7	2.8	5	2.3	2	0.8	1	0.4	23	1.7
All	157	100	185	100	254	100	220	100	262	100	257	100	1335	100

Notes: This table presents total occurrence of environmental themes in the stand-alone reports. In particular, number of environmental graphs and percentages are shown.

5.3.3 Tables

Table 5.15 presents the total number of tables presented in stand-alone reports and annual reports. Overall, there are a total of 28,678 tables presented. Only 5% (1,560 tables) out of 28,678 tables are presented in stand-alone reports, whereas another 95% (27,118 tables) are presented in annual reports. There are no tables presented in 18% (39 reports) of stand-alone reports, while all annual reports presented tables. The popular range of tables presented in stand-alone reports is between 1 and 5, inclusive, as demonstrated in 40% (89 reports) out of 223 stand-alone reports. For annual reports, the popular range of tables is between 61 and 80, inclusive as demonstrated in 22% (49 reports) out of 223 annual reports. There is no annual report that presents less than 40 tables. Over time, the stand-alone reports (and annual reports) demonstrated an increasing trend in the number of tables presented with the mean of 7 tables (106.5 tables) in 2000 to 10.1 tables (148 tables) in 2005. However on overall, the mean number of tables presented in stand-alone reports and annual reports are 7 and 121.6, respectively. The results of a Mann-Whitney test indicated that the increase in the number of tables in annual reports is highly significant (p<0.01), thus supporting hypotheses H_{8a}. In the case of stand-alone reports, the result of a one-tailed Mann-Whitney test suggested that the increase in the number of tables over time is significant (p=0.1), thus supporting hypothesis H_{8b}[113].

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[113] The result of a one-tailed Mann-Whitney test is obtained as the hypothesis is directional in nature.

Table 5.15 Detail distributions of tables in stand-alone reports and annual reports

No	2000 SAR	2000 AR	2001 SAR	2001 AR	2002 SAR	2002 AR	2003 SAR	2003 AR	2004 SAR	2004 AR	2005 SAR	2005 AR	Total SAR	Total AR	All
No table	4	-	8	-	9	-	6	-	7	-	5	-	39	-	39
[%]	[21.1]	-	[28.6]	-	[23.7]	-	[13.0]	-	[15.2]	-	[10.9]	-	[17.5]	-	[8.7]
1 - 5	8	-	8	-	16	-	23	-	18	-	16	-	89	-	89
[%]	[42.1]	-	[28.6]	-	[42.1]	-	[50.0]	-	[39.1]	-	[34.8]	-	[39.9]	-	[20.0]
6 - 10	5	-	5	-	6	-	11	-	8	-	11	-	46	-	46
[%]	[26.3]	-	[17.9]	-	[15.8]	-	[23.9]	-	[17.4]	-	[23.9]	-	[20.6]	-	[10.3]
11 - 15	1	-	4	-	3	-	5	-	7	-	4	-	24	-	24
[%]	[5.3]	-	[14.3]	-	[7.9]	-	[10.9]	-	[15.2]	-	[8.7]	-	[10.8]	-	[5.4]
16 - 20	-	-	2	-	2	-	-	-	2	-	4	-	10	-	10
[%]	-	-	[7.1]	-	[5.3]	-	-	-	[4.3]	-	[8.7]	-	[4.5]	-	[2.2]
21 - 25	-	-	1	-	2	-	1	-	2	-	3	-	9	-	9
[%]	-	-	[3.6]	-	[5.3]	-	[2.2]	-	[4.3]	-	[6.5]	-	[4.0]	-	[2.0]
26 - 40	-	-	-	-	-	-	-	-	2	-	2	-	4	-	4
[%]	-	-	-	-	-	-	-	-	[4.3]	-	[4.3]	-	[1.8]	-	[0.9]
41 - 60	1	1	-	1	-	3	-	1	-	1	-	2	1	9	10
[%]	[5.3]	[5.3]	-	[3.6]	-	[7.9]	-	[2.2]	-	[2.2]	-	[4.3]	[0.5]	[4.0]	[2.2]
61 - 80	-	7	-	10	-	8	-	12	-	9	1	3	1	49	50
[%]	-	[36.8]	-	[35.7]	-	[21.1]	-	[26.1]	-	[19.6]	[2.2]	[6.5]	[0.5]	[22.0]	[11.2]

(continued)

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Table 5.15 (continued)

| No | 2000 | | 2001 | | 2002 | | 2003 | | 2004 | | 2005 | | Total | | All |
	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	SAR	AR	
81 - 100	-	2	-	3	-	6	-	7	-	8	-	9	-	35	35
[%]	-	[10.5]	-	[10.7]	-	[15.8]	-	[15.2]	-	[17.4]	-	[19.6]	-	[15.7]	[7.9]
101 - 120	-	2	-	3	-	6	-	7	-	9	-	5	-	32	32
[%]	-	[10.5]	-	[10.7]	-	[15.8]	-	[15.2]	-	[19.6]	-	[10.9]	-	[14.3]	[7.2]
121 - 140	-	4	-	7	-	7	-	8	-	6	-	4	-	36	36
[%]	-	[21.1]	-	[25.0]	-	[18.4]	-	[17.4]	-	[13.0]	-	[8.7]	-	[16.1]	[8.1]
141 - 160	-	-	-	-	-	3	-	4	-	5	-	6	-	18	18
[%]	-	-	-	-	-	[7.9]	-	[8.7]	-	[10.9]	-	[13.0]	-	[8.1]	[4.0]
161 - 180	-	2	-	3	-	1	-	1	-	3	-	4	-	14	14
[%]	-	[10.5]	-	[10.7]	-	[2.6]	-	[2.2]	-	[6.5]	-	[8.7]	-	[6.3]	[3.1]
181 - 200	-	-	-	-	-	1	-	1	-	1	-	4	-	7	7
[%]	-	-	-	-	-	[2.6]	-	[2.2]	-	[2.2]	-	[8.7]	-	[3.1]	[1.6]

Table 5.15 (continued)

No	2000 SAR	AR	2001 SAR	AR	2002 SAR	AR	2003 SAR	AR	2004 SAR	AR	2005 SAR	AR	Total SAR	AR	All
> 200	-	1	-	1	-	3	-	5	-	4	-	9	-	23	23
[%]	-	[5.3]	-	[3.6]	-	[7.9]	-	[10.9]	-	[8.7]	-	[19.6]	-	[10.3]	[5.2]
N	19	19	28	28	38	38	46	46	46	46	46	46	223	223	446
Total tables	133	2024	167	2988	216	4313	224	5403	354	5577	466	6813	1560	27118	28678
Total percentages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	7.0	106.5	6.0	106.7	5.7	113.5	4.9	117.5	7.7	121.2	10.1	148.0	7.0	121.6	64.3
Std dev	12.0	42.8	6.5	43.4	6.2	46.6	4.6	48.1	8.1	47.8	13.5	63.6	9.0	51.9	68.4
Min	0	60	0	47	0	56	0	53	0	60	0	46	0	46	0
Max	54	215	23	233	23	247	21	249	34	276	79	322	79	322	322
pB	< 0.01 ***		< 0.01 ***		< 0.01 ***		< 0.01 ***		< 0.01 ***		< 0.01 ***		< 0.01 ***		-
pO	-		-		-		-		-		0.20	0.01 ***	-		-

Notes: This table presents total number of tables in stand-alone reports (SAR) and annual reports (AR). In particular, total tables, mean and standard deviation are shown. The minimum and the maximum number of tables in reports are included. pB is the significance value of difference in the rankings of total tables of the two samples (SAR and AR) and pO is the significance value of that over time for the individual sample. *** represents a significant value of pB and pO at the 0.01 level in a two-tailed Mann-WhitneyTest.

The difference in the overall number of tables presented in stand-alone reports and annual reports were tested using a Mann-Whitney test[114]. The results indicated that the difference in the number of tables presented between stand-alone reports and annual reports is highly significant $(p<0.01)$[115], with annual reports presenting significantly more tables than stand-alone reports. This means that hypothesis H_{8c} is well supported.

This study also examines the difference in the number of tables between annual reports and stand-alone reports for the individual years. A Mann-Whitney test was employed and the results suggested that the difference in the number of tables between annual reports and stand-alone reports for the individual years, is highly significant $(p<0.01)$.

Figure 5.8 presents a line graph to show the trend in the number of tables presented in stand-alone reports and annual reports.

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[114] The Mann-Whitney test is used because the results of the K-S test shows that the distribution of data for annual reports, D(223)=0, ns is normally distributed and for stand-alone reports, D(223)=-0.9910 p<0.01 indicates that the data is non-normally distributed.
[115] The mean ranking of total tables in stand-alone reports is 112 while the mean ranking of total tables in annual reports is 335

Figure 5.8 The average number of tables in stand-alone reports and annual reports
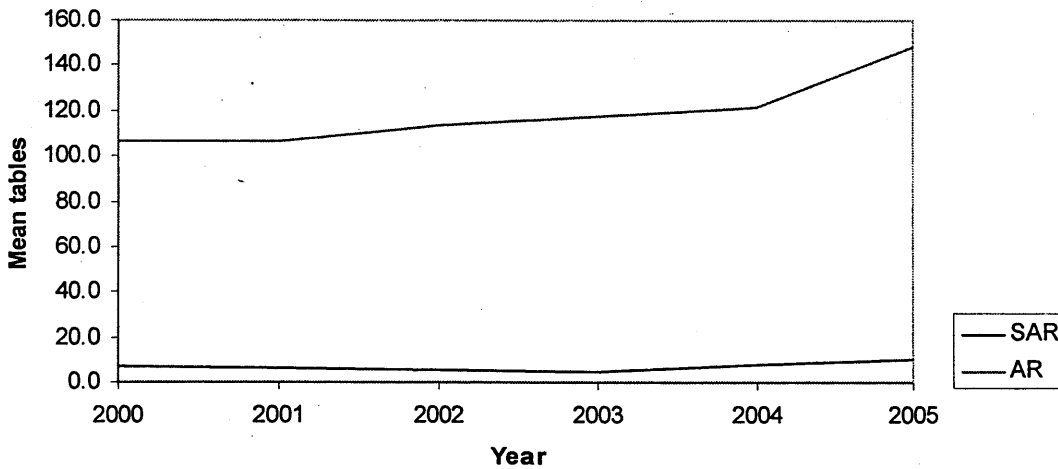
5.4 Summary

This chapter reports the findings from the analyses conducted on the length of annual reports and stand-alone reports as well as on the attributes of photographs, graphs and tables presented in these two different reports. When it concerns the presentation formats, the findings are centred on the difference in the overall number of incidents of respective presentation formats presented in annual reports and stand-alone reports. Based on this information, the presentation formats in the annual reports and stand-alone reports are ranked accordingly. Collectively, photographs, graphs, and tables are found in 80% of annual reports and stand-alone reports. Overall, tables are the most popular presentation format, followed by photographs in the second position, and graphs in the third position. That said, tables are the favourite presentation format in annual reports, while photographs are the favourite presentation format in stand-alone reports.

There are some significant differences in the nature of images in photographs presented between annual reports and stand-alone reports. These include, *inter alia*, work-related versus non-work related, men versus women, and a single man or

woman versus a group of men or women. However, the number of photographs presented between annual reports and stand-alone reports was found to be not significantly different. Also, there is no significant difference in the amount of report space occupied by photographs between these two different reports. Meanwhile, graphs and tables are presented significantly more frequently in annual reports than in stand-alone reports. Over time, the number of tables had increased significantly, whereas the number of photographs and graphs did not. Overall, a total of 16 hypotheses were tested for this chapter, and 11 out of 16 hypotheses were supported, while the remaining 5 hypotheses were not supported. These findings will be discussed in greater detail in the discussion chapter, Chapter 8 *infra*.

Chapter 6: Results – The influence of company characteristics on presentation formats

6.0 Introduction

This chapter presents the results from the analyses that examined the influence of company characteristics on the length of annual reports and stand-alone reports, as well as the number of photographs, graphs and tables presented in those two different reports. In other words, the purpose of the analyses is to determine the changes, if any, in the length of the reports as well as in the number of presentation formats presented in annual reports and stand-alone reports with respect to the changes in company characteristics of size, activity, listing status, and performance[116].

The remainder of this chapter is structured as follows. The following section, Section 6.1, discusses the classification of companies in the sample according to size, listing status, performance, and activity. The next section, Section 6.2, presents the association between firm characteristic. Then, the influence of company characteristics on the length of stand-alone reports, and annual reports is presented in Section 6.3. The subsequent section, Section 6.4 presents the influence of company characteristics on the number of photographs, graphs, and tables in stand-alone reports and annual reports. The last section, Section 6.5 is a summary that concludes this chapter.

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[116] Market capitalisation is used as a proxy of size. As for activity, this study is not focusing on the activities per se, but rather on whether or not they are environmentally sensitive. Listing status refers to whether or not a selected company is listed on the FTSE4Good index. Performance refers to whether or not the financial performance of a selected company has improved as compared to the previous year.

6.1 The classification of companies

Table 6.1 presents information related to the classification of all 46 companies based on their respective company characteristics. Indirectly this means that all 446 reports – 223 stand-alone reports and 223 annual reports – for the period 2000–2005 inclusive - have to be regrouped[117]. Two groups for each characteristic were formulated. For size, the groups are larger and smaller. Environmentally sensitive and environmentally non-sensitive form the groups for activity. Groups for listing status are FTSE4Good and non-FTSE4Good, while improved performance and non-improved performance are the groups for performance[118].

Activity is the only characteristic that requires no further rearrangement of companies during the 6-year period of study[119], while some of the members in groups for size, listing status, and performance had to switch groups over the years due to changes in their company characteristics. Citing size as an example, a small company may potentially be expending over the years and become a larger company. The same goes for listing status and performance. As such, detail related to the segregation of companies into their respective groups over the years is crucial to ensure the validity of results.

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[117] There are companies in the sample that did not produce stand-alone reports in the form of hardcopy during the first three years of investigation (2000 - 2002). Only 19 stand-alone reports were produced in 2000, 28 (2001), and 38 (2002). As for the period from 2003 to 2005, all 46 companies in the sample produced stand-alone reports in the form of hardcopy. This phenomenon is a result of the selection criteria that picked-up a company only if the said company produced stand-alone reports in the form of hardcopy for a minimum of three consecutive years beginning 2003.

[118] Earnings before interest and tax (EBIT) were used to calculate the performance of the companies over time. If the EBIT of the current reporting year is more than that of the previous year then the company is considered as improved in the performance (improved performance). Where the EBIT is less than, or equal to, that of the previous year, then the company involved is classified as not making any improvement (non-improved performance).

[119] Activity in the context of this study is treated as unchanged throughout the six years period of the study. As such, the discussion for activity is focusing on the number of stand-alone and annual reports that belong to the environmentally sensitive and environmentally non-sensitive groups.

Table 6.1 Arrangement of sample based on company characteristics

(continued)

Nos	Activity	Activity Group	N	2000 Performance			2001 Performance			2001 Listing		2002 Performance		2002 Listing	
				IP	XIP	NA	IP	XIP	NA	4G	X4G	IP	XIP	4G	X4G
1	Aerospace	ES	2	1	1	-	1	1	-	-	2	1	1	-	2
2	Banks	XES	8	6	1	1	4	4	-	8	-	5	3	8	-
3	Chemicals	ES	1	-	1	-	1	-	-	1	-	1	-	1	-
4	Food/Beverages	XES	4	2	2	-	2	2	-	4	-	3	1	4	-
5	Household	ES	1	1	-	-	1	-	-	-	1	1	-	1	-
6	Insurance	XES	4	1	1	2	1	3	-	4	-	1	3	4	-
7	Media	XES	2	2	-	-	2	-	-	2	-	-	2	2	-
8	Mining	ES	4	3	-	1	2	1	1	-	4	1	3	1	3
9	Oil and Gas	ES	4	3	1	-	-	4	-	3	1	-	4	3	1
10	Pharmaceuticals	ES	2	2	-	-	2	-	-	2	-	-	2	2	-
11	Real Estate	ES	3	3	-	-	-	3	-	2	1	3	-	2	1
12	Retails	XES	4	1	3	-	1	3	-	4	-	4	-	4	-
13	Telecommunications	XES	2	1	-	1	-	1	1	2	-	1	1	2	-
14	Tobacco	ES	2	2	-	-	2	-	-	-	2	-	2	-	2
15	Utilities	ES	3	2	1	-	2	1	-	3	-	2	1	3	-
	All cases		46	30	11	5	21	23	2	35	11	23	23	37	9

Table 6.1. (continued)

Nos	Activity	Activity Group	N	2003 Performance IP	XIP	2003 Listing 4G	X4G	2004 Performance IP	XIP	2004 Listing 4G	X4G	2005 Performance IP	XIP	2005 Listing 4G	X4G
1	Aerospace	ES	2	1	1	-	2	2	-	-	2	2	-	-	2
2	Banks	XES	8	8	-	8	-	7	1	8	-	7	1	8	-
3	Chemicals	ES	1	-	1	1	-	1	-	1	-	1	-	1	-
4	Food/Beverages	XES	4	2	2	4	-	2	2	4	-	3	1	4	-
5	Household	ES	1	1	-	1	-	1	-	1	-	1	-	1	-
6	Insurance	XES	4	4	-	4	-	4	-	4	-	4	-	4	-
7	Média	XES	2	2	-	2	-	2	-	2	-	2	-	2	-
8	Mining	ES	4	3	1	1	3	4	-	1	3	4	-	1	3
9	Oil and Gas	ES	4	4	-	3	1	3	1	4	-	4	-	4	-
10	Pharmaceuticals	ES	2	1	1	2	-	2	-	2	-	1	1	2	-
11	Real Estate	ES	3	1	2	2	1	3	-	3	-	2	1	3	-
12	Retails	XES	4	4	-	4	-	3	1	4	-	2	2	4	-
13	Telecommunications	XES	2	1	1	2	-	2	-	2	-	2	-	2	-
14	Tobacco	ES	2	1	1	-	2	2	-		2	2	-	-	2
15	Utilities	ES	3	2	1	3	-	3	-	3	-	2	1	3	-
	All cases		46	35	11	37	9	41	5	39	7	39	7	39	7

Notes: This table presents total companies in the sample based on company characteristics. In particular, the total companies per characteristic are shown. IP=improved performance; XIP=non-improved performance; NA=not available; 4G=FTSE4Good; X4G=non-FTSE4Good; ES=environmentally sensitive; and XES=environmentally non-sensitive.

6.1.1 Size

Table 6.2 presents information relating to the stand-alone reports, based on company size. Size in the context of this study refers to market capitalisation. The mean value of market capitalisation for the 6-year period of the study is £18,558 million, or a rounded up figure of £19,000 million. However, the figure, from this researcher's point of view, is inappropriate for use as a cut-off value in segregating the companies into their respective groups[120]. This is because the size of a company is dynamic rather than static, which means that there is a potential for a smaller company to expand and become a larger company over the years, and *vice versa*. Also, if the mean value is used, there will be a distortion resulting from the size effect of the top10 FTSE companies. Thus an appropriate measure from this researcher's point of view is the median. By using the median as a cut-off point, the size effect of the top 10 FTSE companies is minimised while at the same time enabling the groups of smaller companies and larger companies to have an equal number of participating companies[121].

There were however, five cases of the non-availability of information on market capitalisation, in the Thomson One Banker database[122]. Also, there were 27 incidences involving the smaller group and 21 incidences involving the larger group where hardcopy stand-alone reports were not produced during the 6-year period of study. This provides the answer as to why only 223 stand-alone reports were

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[120] The two groups for size are smaller companies(coded as 0) and larger companies (coded as 1)

[121] Except for 2001, there were an equal number of companies in the smaller and larger groups. In 2000, small and big groups had 21 companies each. From 2002 onwards, small and big groups had 23 companies each. For 2001, the larger group had 22 companies and the smaller group had 23 companies. The unequal number of companies in the groups in 2001 is due to the unavailability of information of one company in Thomson One Banker database.

[122] The required information for the companies involved is not available as those companies involved are not yet formed at that particular time. Four of these cases are in 2000 and one case is in 2001. For 2000, those four companies are HBOS, O2, Xstrata and Friends Provident. As for 2001, the company involved is Xstrata.

collected, out of a possible 271 reports[123]. Of these 223 incidents, where the stand-alone reports were produced, 49% (109 incidents) involved stand-alone reports produced by the smaller companies while 51% (114 incidents) involved stand-alone reports produced by larger companies[124]. This indirectly suggests that larger companies, rather than smaller companies, are more likely to produce stand-alone reports[125]. This is true to a certain extent because out of the total of 48 incidents where stand-alone reports were not produced, 56% (27 incidents) involved the smaller companies.

This study subsequently examined the difference in the size characteristics of the companies between the smaller and larger groups for the individual years as well as over time. Due to the small sample size, this researcher opted for the Mann-Whitney test. The results of the test indicated that there was a significant difference in the size between smaller and larger companies for all individual years ($p < 0.01$). Over time, there was a significant difference in the size of companies in the smaller group ($p < 0.01$)[126], suggesting a growth in the market capitalisation of the companies involved. As for companies in the larger group, the difference in size over time was not significant ($p > 0.1$).

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[123] the total number of companies in the sample is 46. If we assume that all companies produced stand-alone reports for 2000-2005 then the total reports produced = 46 x 6 = 276 reports. Due to unavailability of information on five companies, therefore the final possible cases if all companies produced stand-alone reports = 276 – 5 = 271.

[124] Although the discussion is focusing on stand-alone reports, the same situation applies for annual reports. This is because both annual reports and stand-alone reports are obtained from the selected companies only when the latter are produced.

[125] This does not in anyway mean that the number of stand-alone reports of the big companies is more than the number of stand-alone reports produced by the small companies, and therefore needs to be read with caution.

[126] The average ranking of market capitalisation is higher for 2005 (27.3) than for 2000 (17.2) in a two-tailed Mann-Whitney test.

Table 6.2 Stand-alone reports produced based on company size

Item	2000		2001		2002	
	Small	Big	Small	Big	Small	Big
Total companies	21	21	23	22	23	23
SAR produced	8	11	14	14	18	20
SAR not produced	13	10	9	8	5	3
Median (£M)	8694.2	-	8093.3	-	7479.2	-
Mean (£M)	3861.5	38093.5	4132.3	34293.4	3376.2	25742.2
SD (£M)	2060.8	38812.3	2075.3	33373.8	1914.3	24080.4
Minimum (£M)	302.4	9183.1	362.3	8651.4	459.4	7694.6
Maximum (£M)	8205.4	150842.6	8093.3	122041.4	7263.9	95424.9
pB	< 0.01***		< 0.01***		< 0.01***	
pO	-		-		-	

Item	2003		2004		2005		
	Small	Big	Small	Big	Small	Big	All
Total companies	23	23	23	23	23	23	271
SAR produced	23	23	23	23	23	23	223
SAR not produced	-	-	-	-	-	-	48
Median (£M)	8485.2	-	9924.5	-	12175.5	-	-
Mean (£M)	3972.4	30220.8	4740.8	31957.3	5754.5	37660.4	18558.4
SD (£M)	2062.1	28870.9	2338.2	29612.3	2495.4	30622.5	26042.9
Minimum (£M)	602.7	8947.7	1732.4	10407.7	2910.2	12443.6	302.4
Maximum (£M)	8022.8	100131.1	9441.3	109944.6	11907.3	127960.0	150842.6
pB	< 0.01***		< 0.01***		< 0.01***		-
pO	-		-		< 0.01***	0.38	-

Notes: This table presents sample size per market capitalisations. In particular, the number of companies and the total stand-alone reports produced are shown. Median is the cut off point between small and big companies in the sample. Market capitalisations of four companies in 2000 and one company in 2001 are not available. pB is the significance value of the difference in the rankings of market capitalisations between groups of small and big companies for each individual year, and pO is the significance value of that over time for the individual group. *** represents a significant value of pB and pO at the 0.01 level in a two-tailed Mann-Whitney test.

6.1.2 Listing status

Table 6.3 presents details of stand-alone reports that were produced based on company listing status[127]. As FTSE launched the FTSE4Good Index in July 2001, the data for 2000 in the original sample has to be completely excluded. The exclusion of data for the year 2000 involved a total of 19 reports each for stand-alone reports and annual reports. This also means that a total of 947 photographs, 542 graphs, and 2,157 tables presented in annual reports and stand-alone reports for 2000 also need to be excluded. This exclusion procedure meant that the data related to listing status now covers only a 5 year period, instead of 6 years, namely from 2001 – 2005, inclusive, involving a total of 204 reports each for stand-alone reports and annual reports[128] with 10,874 photographs, 5,520 graphs and 26,521 tables[129].

There are altogether 186 incidents of companies in the FTSE4Good group and 44 incidents of companies in the non-FTSE4Good group. This suggests that there are more FTSE4Good companies rather than non-FTSE4Good companies in the sample. That said, only 163 incidents involving companies in the FTSE4Good group (88%) where stand-alone reports were produced in the form of a hardcopy, while the companies in the non-FTSE4Good group produced a total of 41 stand-alone reports (93%)[130] in the form of a hardcopy. This indicates that the non-FTSE4Good companies, rather than the FTSE4Good companies, are more likely to produce stand-alone reports in the form of a hardcopy[131].

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[127] Listing status in the context of this study refers to whether or not companies in the sample are listed on the FTSE4Good Index. The coding involving listing status was 0=non-FTSE4Good, 1=FTSE4Good.

[128] Not all companies in the sample produced stand-alone reports in 2001 and 2002 although all companies produced stand-alone reports from 2003 onwards. Total stand-alone reports produced in 2001 is 28, 2002 (38), 2003-2005 (46 for each individual years). An equivalent number of annual reports are collected for each individual year.

[129] Stand-alone reports presented 5526 photographs, 2423 graphs and 1427 tables, whereas annual reports presented 5348 photographs, 3097 graphs and 25094 tables.

[130] All non-FTSE4Good companies in the sample produced stand-alone reports in the form of hardcopy from 2002 onwards. All FTSE4Good companies produced stand-alone reports in the form of hardcopy from 2003 onwards.

[131] This needs to be read with caution as there is a possibility that the related reports are produced in other than printed form, which was not covered in this study.

Table 6.3. Stand-alone reports produced based on listing status

Characteristic	2001			2002			2003		
	FTSE4G	X-FTSE4G	All	FTSE4G	X-FTSE4G	All	FTSE4G	X-FTSE4G	All
Total companies	34	12	46	37	9	46	37	9	46
SAR produced (number)	19	9	28	29	9	38	37	9	46
SAR produced (%)	55.9	75.0	60.9	78.4	100.0	82.6	100.0	100.0	100.0

6.1.3 Performance

Table 6.4 presents details related to stand-alone reports that were produced based on company performance. Performance, in the context of this study, refers to the difference in a company's earnings before interest and tax (EBIT) between the current reporting year (n) and the previous reporting year (n-1). Presented in mathematical form, performance may be stated as follows,

$$Performance = EBIT\ (n) - EBIT\ (n-1)\ where\ n = reporting\ year$$

This researcher uses the above equation as a tool in classifying the companies into their respective groups of either improved performance or non-improved performance. In the case where the value of the result is positive, then the company is classified as having an improved performance. If the value of the result is zero, or negative, then the company is considered as having a non-improved performance[132]. The performance of all companies is calculated for each individual year from 2000 to 2005 inclusive[133].

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[132] The coding involving improvement in performance was 0=non-improved, 1=improved.

[133] There are seven incidents (2%) of incomplete calculations due to non-availability of data in the Thomson One Banker database. Five incidents are in 2000 involving HBOS; O2; Xstrata; Friends Provident; and Royal & Sun Alliance Insurance (RSA). Another two incidents are in 2001 involving O2; and Xstrata. From these seven incidents, there was only one incident where the company produced stand-alone report. This one company is RSA.

Table 6.4. Stand-alone reports produced based on performance

Characteristic	2000			2001			2002		
	IP	XIP	All	IP	XIP	All	IP	XIP	All
Total companies	30	11	41	22	22	44	23	23	46
SAR produced (number)	13	5	18	13	15	28	17	21	38
SAR produced (percentage)	43.3	45.5	43.9	59.1	68.2	63.6	73.9	91.3	82.6

Table 6.4. (continued)

Characteristic	2003			2004			2005			Total		
	IP	XIP	All	IP	XIP	All	IP	XIP	All	IP	XIP	All
Total companies	35	11	46	41	5	46	39	7	46	190	79	269
SAR produced (number)	35	11	46	41	5	46	39	7	46	158	64	222
SAR produced (percentage)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	83.2	81.0	82.5

Notes: This table presents information related to financial improvement of sample companies. In particular, the number of companies and the total stand-alone reports produced by companies of improved performance (IP) and non-improved performance (XIP) are shown. The percentage of stand-alone reports produced is based on the number of reports produced out of the total number of companies involved.

Generally, most companies in the sample had experienced an improvement in their financial performances over the years. Within the period of 6 years from 2000-2005 inclusive, 71% (190 incidents) out of 269 incidents[134] involved a situation where companies experienced an improvement in performance, while 29% (79 incidents) involved a situation where companies experienced non-improvement in performance. This suggests that there are more companies with improved performance, than non-improved performance in the sample. From a total of 269 incidents where the status of their performance was determinable, 83% (222 incidents) involved a situation where stand-alone reports were produced[135]. Of these 222 stand-alone reports, 71% (158 reports) were produced by companies with improved performance, while 29% (64 reports) were produced by companies experiencing non-improved performance. Specifically for companies experiencing an improvement in their performances, 83% (158 incidents) out of 190 incidents involved a situation where stand-alone reports were produced. Similarly, of 79 incidents where companies experienced non-improved performances, 81% (64 incidents) involved companies producing stand-alone reports. Generally, this suggests that companies having improved performance, rather than, non-improved performance are more likely to produce stand-alone reports in the form of a hardcopy.

6.1.4 Business activity

Table 6.5 presents details related to stand-alone reports that were produced based on company business activities. Altogether, companies in the sample for this study are involved in a total of 15 different sectors. These sectors are aerospace, banking, chemicals, food/beverages, household products, insurance, media, mining, oil and gas, pharmaceuticals, real estate, retail, telecommunications, tobacco, and utilities.

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[134] Originally, there were altogether 276 cases in total (46 companies x 6 years = 276). From this total, there were seven cases where the researcher could not determine their financial improvement status. By taking out these seven cases, the new total = 276 – 7 = 269 cases.

[135] One case in 2000 where the stand-alone report is produced had to be discarded because the financial improvement status of the company, the Royal & Sun Alliance Insurance plc could not be determined.

The selected companies were subsequently divided into two different groups, environmentally sensitive and environmentally non-sensitive[136]. This study replicated the previous studies in classifying the nine activities, namely mining, pharmaceuticals, oil and gas, tobacco, real estate, utilities, chemicals, household products, and aerospace as environmentally sensitive[137]. Meanwhile, the environmentally non-sensitive group consists of six different activities, namely, banking, insurance, media, food/beverages, retail, and telecommunications.

Altogether, the activities of 48% (22 companies) of the companies in the sample are classified as environmentally sensitive. Similarly, the activities of 52% (24 companies) of the companies in the sample are considered as environmentally non-sensitive. Assuming that there were no changes in the activities of the selected companies over the six-year period of study (2000-2005 inclusive), there are altogether 132 incidents involving the environmentally sensitive groups and 144 incidents involving the environmentally non-sensitive groups. 83% (110 incidents) out of 132 incidents involving companies regarded as environmentally sensitive, produced stand-alone reports. Meanwhile, only 79% (113 incidents) out of 144 incidents involving companies regarded as environmentally non-sensitive, produced stand-alone reports. This suggests that companies regarded as environmentally sensitive, rather than environmentally non-sensitive, are more likely to produce a hardcopy of stand-alone reports[138].

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[136] The coding involving activities was 0=environmentally non-sensitive, 1=environmentally sensitive.
[137] see for example Neu et al., 1998; Wilmshurst and Frost, 2000; Raar, 2002, 2007; Gao et al., 2005; Aerts and Cormier, 2006; Jose and Lee, 2007; Cho and Patten, 2007; Clarkson et al., 2008; and Brammer and Pavelin, 2008
[138] The statement represents the view of the researcher and thus needs to be read with caution.

Table 6.5. Stand-alone reports produced based on companies activity

(continued)

	2000			2001			2002		
	ES	XES	All	ES	XES	All	ES	XES	All
Total companies	22	24	46	22	24	46	22	24	46
SAR produced (number)	9	10	19	16	12	28	19	19	38
SAR produced (percentage)	40.9	41.7	41.3	72.7	50.0	60.9	86.4	79.2	82.6

Table 6.5. (continued)

	2003			2004			2005			Total		
	ES	XES	All	ES	XES	All	ES	XES	All	ES	XES	All
Total companies	22	24	46	22	24	46	22	24	46	132	144	276
SAR produced (number)	22	24	46	22	24	46	22	24	46	110	113	223
SAR produced (percentage)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	83.3	78.5	80.8

Notes: This table presents information related to activity of sample companies. In particular, the number of companies and the total stand-alone reports produced by companies of environmental sensitive (ES) and environmental non-sensitive (XES) are shown. The percentage of stand-alone reports produced is based on the number of reports produced out of the total number of companies involved.

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6.2 The association between company characteristics

Table 6.6 presents the measure of relationships between the company characteristics (size, listing status, performance and activity), based on Spearman's correlation coefficient. The results indicate that activity (sensitivity towards the environmental) is significantly associated with size and listing status. In both cases, the relationships are negative, which means that the changes involved a movement in the opposite direction.

Table 6.6 The measure of association between the characteristics

variable activity	size	listing status	performance	
Size	1.0000 [0.0000]			
Listing status	0.0656 [0.3227]	1.0000 [0.0000]		
Performance	0.0512 [0.4028]	0.0071 [0.9147]	1.0000 [0.0000]	
Activity	-0.1294 ** [0.0332]	-0.5009 *** [0.0000]	-0.0055	1.0000 [0.9284]

[0.0000]

Notes: This table presents the correlation coefficient between the characteristics. The upper value is the Spearman's *rho*. The lower value is the significance in the relationship between the variables. *** and ** represent the significant relationship between the variables at the 0.01 and 0.05 level.

When it concerns the relationship between activity and size, the results suggested that these two characteristics are statistically significant ($rho=-0.1294$, $p<0.05$). In a way, the result indicated that a significant number of companies in the larger group (size=1) were classified as environmentally non-sensitive (activity=0), while a significant number of companies in the smaller group (size=0) were classified as environmentally sensitive (activity=1). When it concerns the relationship between activity and listing status, the results suggested that these two characteristics are statistically significant ($rho=-0.5009$, $p<0.01$). The results indicated that a significant number of companies listed on the FTSE4Good index ((listing status=1) were classified as environmentally non-sensitive (activity=0), while a significant number of companies not listed on FTSE4Good index (listing status=0) were classified as environmentally sensitive (activity=1). Apart from that, no other significant relationships between the characteristics were detected.

6.3 The influence of company characteristics on the length of reports

This study examined the influence of size, performance, listing status, and activity of the companies on the length of stand-alone reports and annual reports produced by the selected companies.

6.3.1 Length of stand-alone reports

Table 6.7 presents the influence of company size, performance, listing status, and activity on the overall length of stand-alone reports.

Table 6.7. The influence of company characteristics on the length of stand-alone reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	114	109	-	163	41	-	158	64	-	110	113	-
Mean pages	42.9	47.4	38.3	0.07 *	40.8	57.3	0.30	43.9	40.7	0.31	47.9	38.2	0.86
Std dev	38.9	46.9	27.8	-	35.5	53.7	-	40.8	34.2	-	50.9	20.8	-
Min pages	4	8	4	-	4	4	-	4	4	-	4	6	-
Max pages	384	384	186	-	384	230	-	384	204	-	384	132	-

Notes: This table presents information related to the length of stand-alone reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of report length between the respective groups. * represents a significant value of p at the 0.1 level in the two-tailed Mann-Whitney test.

Overall, the larger, non-FTSE4Good[139], improved performance, and environmentally sensitive companies appear to have produced more pages of stand-alone reports as compared to the companies in their opposite groups. The Mann-Whitney test[140] was employed to examine the differences in the length of stand-alone reports between the groups for each characteristic. The only significant result involved company size, while results for the influence of listing status, performance, and activity were found to be statistically not significant[141]. The results of a Mann-Whitney test suggested that the stand-alone reports of larger companies have significantly more pages (47 pages on average) than those of smaller companies (38 pages on average) (p<0.1)[142], thus supporting hypothesis H_{9b}. Meanwhile and as the results imply, hypotheses H_{13b}, H_{17b}, and H_{21b} were not supported.

6.3.2 Length of annual reports

Table 6.8 presents the influence of company size, performance, listing status, and activity on the overall length of annual reports. Overall, larger, FTSE4Good, improved performance, and environmentally non-sensitive[143] companies appear to have produced more pages in annual reports, as compared to the companies in their opposite groups. The Mann-Whitney test[144] was employed to examine the difference in the lengths of annual reports between the groups for each characteristic. The

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[139] The non-FTSE4Good companies are those companies that were not listed on the FTSE4Good index.

[140] The Mann-Whitney test is employed because the K-S test suggests that the data for pages in stand-alone reports are non-normally distributed (D(223)=-0.7848, p<0.01).

[141] For listing status, the average in the rankings of the length of stand-alone reports for the FTSE4Good and the non-FTSE4Good companies are, respectively, 111 and 100. For performance, the average in the rankings of the length of stand-alone reports for companies of improved performance and non-improved performance are, respectively, 114 and 105. For activity, the average in the rankings of the length of stand-alone reports for the environmentally sensitive and the environmentally non-sensitive companies are respectively 113 and 111.

[142] The average in the rankings of the length of stand-alone reports for the bigger and the smaller companies is, respectively, 120 and 104.

[143] 4Good = listed on the FTSE4Good index; XES = environmentally non-sensitive

[144] The K-S test suggested that the data for pages of annual reports are normally distributed (D(223)=0.0045, ns). However, a subsequent test on normality using the S-W test indicated that the data distributions are non-normal (p<0.01), hence the employment of the Mann-Whitney test.

results indicated that company size and activity have an influence on the length of the annual reports.

When it concerns the influence of company size, annual reports produced by larger companies have significantly more pages (136 pages on average) than is the case with smaller companies (94 pages on average), (p<0.01) thus supporting hypothesis H_{9a}. When it concerns the influence of activity of the companies, the annual reports produced by environmentally non-sensitive companies have significantly more pages (124 pages on average) than those for environmentally sensitive companies (108 pages on average), (p<0.05). This means that hypothesis H_{17a} was supported but in the opposite direction[145]. The Mann-Whitney test for performance and listing status produced non-significant results[146]. Hypotheses H_{13a} and H_{21a} were therefore not supported.

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[145] It was hypothesized that the number of pages of annual reports is more in environmentally sensitive rather than environmentally non-sensitive companies.

[146] For listing status, the average in the rankings of the length of annual reports for the FTSE4Good and the non-FTSE4Good companies are, respectively, 90.3 and 106. For performance, the average in the rankings of the length of annual reports for companies of improved performance and non-improved performance are, respectively, 116 and 101.

Table 6.8. The influence of company characteristics on the length of annual reports

Variables	Total	Size			Listing status			Performance			Activity		
		Small	Big	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	109	114		163	41		158	64		110	113	
Mean pages	115.7	94.0	136.4	< 0.01 ***	120.5	104.7	0.14	119.6	106.1	0.13	107.6	123.6	0.03 **
Std dev	49.1	34.6	52.1		52.1	36.7		51.8	40.9		42.6	53.7	
Min pages	44	44	44		44	44		44	44		44	44	
Max pages	320	204	320		320	184		320	248		232	320	

Notes: This table presents information related to the length of annual reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of report length between the respective groups. *** and ** represents a significant value of p at the 0.01 and 0.05 level in the two-tailed Mann-Whitney test.

6.4 The influence of company characteristics on presentation formats

This study also examines the influence of size, listing status, performance, and activity of the companies on the number of photographs, graphs and tables presented in the stand-alone reports and in annual reports.

6.4.1 The influence on the number of photographs

The analyses of the influence of selected company characteristics on the number of photograph presentations are separated between stand-alone reports and annual reports.

6.4.1.1 Photographs in stand-alone reports

Table 6.9 presents the influence of size, performance, listing status, and activity of the company on the overall number of photographs in stand-alone reports.

Table 6.9. The influence of company characteristics on photographs in stand-alone reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	114	109		163	41		158	64		110	113	
Mean photographs	26.7	30.2	23.1	<0.01 ***	26.5	29.6	0.81	26.7	26.9	0.98	27.3	26.2	0.99
Std dev	22.0	22.2	21.2		21.6	25.4		21.7	22.8		22.9	21.1	
Min photographs	0	0	0		0	0		0	0		0	0	
Max photographs	113	113	91		113	81		113	91		91	113	

Notes: This table presents information related to photographs in stand-alone reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of total photographs between the groups. *** represents a significant value of p at the 0.01 level in the two-tailed Mann-Whitney test.

This study employed a Mann-Whitney test to examine the significant influence of company characteristics on the number of photographs presented in the stand-alone reports. The influence of company size was found to be significant. By contrast, no influence involving performance, activity, and listing status was observed. When it concerns the influence of size of the companies, the Mann-Whitney test indicated that larger companies present significantly more photographs in stand-alone reports (30 photographs on average) than is the case with their smaller business counterparts (23 photographs on average) $(p<0.05)^{147}$. Hypothesis H_{10b} was therefore supported, while hypotheses H_{14b}, H_{18b}, and H_{22b} were not supported.

6.4.1.2 Photographs in annual reports

Table 6.10 presents the influence of company size, performance, listing status and activity on the overall number of photographs in annual reports. The results of the Mann-Whitney test for all company characteristics involved were not significant. This means that characteristics of size, listing status, performance, and activity of the company have no influence whatsoever on the number of photographs presented in annual reports. Hypotheses H_{10a}, H_{14a}, H_{18a}, and H_{22a} were therefore not supported.

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[147] The average rank is 123.7 and 99.7, respectively, for bigger companies and smaller companies in a two-tailed Mann-Whitney test.

Table 6.10. The influence of company characteristics on photographs in annual reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
N	223	114	109		163	41		158	64		110	113	
Mean	26.3	26.8	25.8	0.75	25.5	29.0	0.41	26.8	24.7	0.67	27.6	25.1	0.12
Std dev	24.7	26.8	22.3		25.1	23.7		25.2	22.9		21.3	27.6	
Min	0	0	0		0	0		0	0		0	0	
Max	144	144	107		144	80		144	105		83	144	

Notes: This table presents information related to photographs in annual reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of total photographs between the respective groups in the two-tailed Mann-Whitney test.

6.4.2 The influence on the number of graphs

This study subsequently examined the influence of size, listing status, performance, and activity of the companies on the number of graphs presented in stand-alone reports and annual reports.

6.4.2.1 Graphs in stand-alone reports

Table 6.11 presents the influence of company size, performance, listing status and activity on the overall number of graphs in stand-alone reports. Only size, listing status, and activity of the companies appear to have a significant influence on the number of graphs presented in stand-alone reports. When it concerns the influence of company size, the results from the Mann-Whitney test indicated that the stand-alone reports of larger companies presented significantly more graphs (13 graphs on average) than is the case with the smaller companies (11 graphs on average) $(p<0.05)$[148] thus supporting hypothesis H_{11b}. In relation to the influence of listing status, the non-FTSE4Good companies presented significantly more graphs in stand-alone reports (14 graphs on average) than the FTSE4Good companies (11 graphs on average) $(p<0.1)$[149] thus supporting hypothesis H_{23b}. As for the influence of company activity, the environmentally sensitive companies are found to present significantly more graphs in stand-alone reports (14 graphs on average) than the environmentally non-sensitive companies (10 graphs on average) $(p<0.05)$[150], thus supporting hypothesis H_{19b}. The performance of the companies appears to have no influence on the overall number of graphs presented in the stand-alone reports, which means that hypothesis H_{15b} was not supported.

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[148] The average rank of graphs in stand-alone reports of bigger companies is 122 while the average rank of smaller companies is 101.6 in a two-tailed Mann-Whitney test.

[149] The average rank of graphs in stand-alone reports of non-FTSE4Good and FTSE4Good companies are, respectively, 118 and 99 in a two-tailed Mann-Whitney test.

[150] The average rank of graphs in stand-alone reports of the environmentally sensitive and the environmentally non-sensitive companies are, respectively, 124 and100 in a two-tailed Mann-Whitney test.

Table 6.11. The influence of company characteristics on graphs in stand-alone reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	114	109		163	41		158	64		110	113	
Mean graphs	12.1	13.3	10.8	0.02 **	11.2	14.4	0.06 *	12.1	12.1	0.85	14.0	10.2	<0.01 ***
Std dev	10.5	10.0	10.8		9.1	10.7		10.1	11.4		11.5	9.1	
Min graphs	0	0	0		0	0		0	0		0	0	
Max graphs	67	51	67		43	53		53	67		67	43	

Notes: This table presents information related to graphs in stand-alone reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of total graphs between the respective groups. ***, ** and * represent a significant value of p at the 0.01, 0.05 and 0.1 level in the two-tailed Mann-Whitney test.

6.4.2.2 Graphs in annual reports

Table 6.12 presents the influence of company size, performance, listing status and activity on the overall number of graphs in annual reports. The results of the Mann-Whitney test for all company characteristics involved were not significant, which suggested that size, performance, listing status and activity have no influence whatsoever on the overall number of graphs presented in the annual reports. This also means that hypotheses H_{11a}, H_{15a}, H_{19a}, and H_{23a} were not supported.

Table 6.12. The influence of company characteristics on graphs in annual reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	114	109		163	41		158	64		110	113	
Mean graphs	15.1	15.9	14.4	0.30	15.3	14.9	0.14	15.3	14.6	0.64	15.1	15.1	0.86
Std dev	13.8	13.2	14.6		13.4	16.4		14.3	13.0		13.4	14.3	
Min graphs	0	0	1		0	0		0	0		0	0	
Max graphs	110	51	110		110	51		110	47		52	110	

Notes: This table presents information related to graphs in annual reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of total graphs between the respective groups in a two-tailed Mann-Whitney test.

6.4.3 The influence on the number of tables

The influence of size, listing status, performance, and activity of the companies on the overall number of tables presented in stand-alone reports and annual reports were subsequently examined.

6.4.3.1 Tables in stand-alone reports

Table 6.13 presents the influence of company size, performance, listing status and activity on the overall number of tables presented in stand-alone reports. Results from the Mann-Whitney test indicated that only company size has an influence on the number of tables presented in the stand-alone reports, whereas listing status, performance, and activity have no influence whatsoever. When it concerns the influence of company size, the Mann-Whitney test indicated that larger companies presented significantly more tables in stand-alone reports (8 tables on average) than smaller companies (6 tables on average) $(p<0.05)$[151], thus supporting hypothesis H_{12b}. Meanwhile, hypotheses H_{16b}, H_{20b}, and H_{24b} were not supported.

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[151] The average rank is 122 and 102, respectively, for bigger companies and smaller companies in a two-tailed Mann-Whitney test

Table 6.13. The influence of company characteristics on tables in stand-alone reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	114	109		163	41		158	64		110	113	
Mean tables	7.0	8.3	5.6	0.02**	6.5	9.0	0.50	7.3	6.3	0.36	7.2	6.8	0.82
Std dev	9.0	9.2	8.6		8.3	10.2		9.3	8.3		10.1	7.8	
Min tables	0	0	0		0	0		0	0		0	0	
Max tables	79	54	79		79	34		79	54		79	54	

Notes: This table presents information related to tables in stand-alone reports. In particular, the total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of total tables between the respective groups. ** represents a significant value of p at the 0.05 level in a two-tailed Mann-Whitney test.

6.4.3.2 Tables in annual reports

Table 6.14 presents the influence of company size, performance, listing status and activity on the overall number of tables in annual reports. It was found that size, listing status, and activity of a company significantly influenced the number of tables presented in annual reports. When it concerns the influence of company size, the results from the Mann-Whitney test indicated that the annual reports of larger companies presented significantly more tables (151 tables on average) than is the case with the smaller companies (91 tables on average) $(p<0.01)$[152] thus supporting hypothesis H_{12a}. In relation to the influence of listing status, the results of a Mann-Whitney test suggested that FTSE4Good companies presented significantly more tables in their annual reports (127 tables on average) than did the non-FTSE4Good companies (107 tables on average) $(p<0.05)$[153]. Related to this, hypothesis H_{24a} was supported, but in the opposite direction[154]. As for the influence of company activity, those companies regarded as environmentally non-sensitive presented significantly more tables in their annual reports (132 tables on average) than the environmentally sensitive companies (111 tables on average) $(p<0.05)$[155]. This also means that hypothesis H_{20a} was supported, but in the opposite direction[156]. The results of the Mann-Whitney test suggested that the performance characteristics have no influence on the overall number of tables presented in annual reports, which means that hypothesis H_{16a} was not supported.

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[152] The average rank of tables in annual reports of bigger companies is 150, while for smaller companies the average rank is 72.1 in a two-tailed Mann-Whitney test.

[153] The average rank of tables in annual reports of FTSE4Good companies is 107, while for the non-FTSE4Good companies the average rank is 84 in a two-tailed Mann-Whitney test.

[154] It was hypothesised that the number of tables in annual reports is more in the non-FTSE4Good rather than in the FTSE4Good companies.

[155] The average rank of tables in annual reports of environmentally non-sensitive companies is 124, while for the environmentally sensitive companies the average rank is 100 in a two-tailed Mann-Whitney test.

[156] It was hypothesised that the number of tables in annual reports is more in the environmentally sensitive companies rather than the environmentally non-sensitive companies

Table 6.14. The influence of company characteristics on tables in annual reports

Variables	Total	Size			Listing status			Performance			Activity		
		Big	Small	p	4Good	X4Good	p	IP	XIP	p	ES	XES	p
Total reports	223	114	109		163	41		158	64		110	113	
Mean tables	121.6	150.6	91.3	<0.01 ***	127.1	106.7	0.03 **	125.5	112.8	0.19	111.0	131.9	<0.01 ***
Std dev	51.9	53.1	28.0		54.4	41.0		54.9	42.7		45.4	55.9	
Min tables	46	58	46		47	46		46	59		46	58	
Max tables	322	322	192		322	198		322	247		264	322	

Notes: This table presents information related to tables in annual reports. In particular, total number of reports involved before and after the segmentation are shown. p is the significance value of difference in the rankings of total tables between the groups. *** and ** represent a significant value of p at the 0.01 and 0.05 level in a two-tailed Mann-Whitney test.

6.5 Summary

This chapter generally presents results related to the influence of size, listing status, performance and activity of the companies on corporate reporting behaviour. Specifically, four aspects of corporate reporting are examined. The first is the comparative lengths of annual reports and stand-alone reports. The second is the overall number of photographs presented in annual reports and stand-alone reports. The third is the overall number of graphs presented in annual reports and stand-alone reports, and the last aspect of corporate reporting that this study examines is the overall number of tables presented in those two types of reports. The investigations into the influence of corporate characteristics on the length of annual reports and stand-alone reports, and on the number of photographs, graphs and tables presented in those two reports, produce mixed results.

Size of the company, activity, and listing status were found to have influenced to a certain extent, on the length of annual reports and stand-alone reports as well as on the number of photographs, graphs, and tables in these two different types of reports. By contrast, no influence involving company performance was observed. Company size is found to have a significant influence on the length of stand-alone reports and annual reports, and on the number of tables in those reports. Size, however, has a limited influence on the presentation of photographs and graphs. Related to this, company size was found to have an influence on the number of photographs and graphs presented in stand-alone reports only. Meanwhile, company activity was found to have an influence on the number of graphs presented in stand-alone reports. Activity also was found to have an influence on the length of annual reports, and also on the number of tables presented in annual reports, albeit in the opposite direction for both cases. Listing status was found to have a significant influence on the number of graphs presented in stand-alone reports. Also, listing status was found to have a significant influence, albeit in the opposite direction, on the number of

tables presented in annual reports. Performance was found to have no influence whatsoever on the length of reports and also on the number of photographs, graphs, and tables in either annual reports or stand-alone reports.

Overall, the corporate reporting behaviour was found to have been influenced, to a certain extent, by company size, activity, and listing status but not the company performance. The impact of these findings is discussed in Chapter 8 *infra*.

Chapter 7: Results - Impression management

7.0 Introduction

This chapter presents the results of the analyses of the presence of impression management in annual reports and stand-alone reports. Four types of presentation formats were analysed, and they include photographs, graphs, tables, and text. Generally, the analyses are focusing on whether or not the presentation formats involved – photographs, graphs, tables, and texts – are employed to a certain extent for presentation management[157]. When it concerns photographs, the analysis involves photographs presented in both annual reports and stand-alone reports. In the case of graphs, tables and texts, the analyses only involve those presentation formats presented in stand-alone reports.

The remainder of this chapter is structured as follows. The following section, Section 7.1, presents the result from the analysis on texts. The next section, Section 7.2, presents the results from the analysis on tables. Then, Section 7.3 presents the result from the analysis on photographs. The results from the analysis on graphs are presented after that, in Section 7.4. The last section, Section 7.5 is a summary that concludes this chapter.

7.1 Texts

This study analysed texts presented in stand-alone reports to investigate the presence of impression management. Impression management is presumed to have

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[157] Specifically for photographs, the analysis focused on how human beings were presented in the foreground of a photograph. In the case of the tables and texts, the analysis focused on the presentation of good news and bad news. The analysis of graphs focused on three different aspects: the presentation of good news and bad news in graphs; the presentation of biased information due to the improper construction of graphs, and the use of special effects in graphs to enhance the information presentations.

been exercised in the case where the information disclosure involved presenting more good news than bad news. As stated in the earlier chapter, Chapter 4 *supra*, texts presented in two different sections of stand-alone reports were examined. The first section is the Chairman statement[158] while the second section is the environmental disclosure section. All texts presented in these two sections of the stand-alone reports were analysed and statements pertaining to global warming were gathered and later classified as either good news or bad news. Plate 7.1 and Plate 7.2, respectively, are samples of good news and bad news in texts.

Plate 7.1 A sample of good news (total=33 words)

"Along with other responsible businesses, Aviva seeks to contain its own direct contributions to global warming, by both cutting energy use and switching to renewable energy sources, where this is a practical option (see page 31)."

(Source: Aviva plc Corporate Social Responsibility Report 2005)

Plate 7.2 A sample of bad news (total=24 words)

"We produce CO2 in direct ways: by the energy we use to brew our beers and as a direct output of the fermentation process."

(Source: SAB Miller Corporate Accountability Report 2005)

Table 7.1 presents detail of good news and bad news on global warming in texts presented in stand-alone reports. The results of a Mann-Whitney test indicated that for all categories of company characteristics – size, activity, performance, and listing

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[158] In annual reports, the welcoming statement is an address from the chairman. However, not all welcoming statements in stand-alone reports are addressed from the chairman. In a case where the welcoming statement is not addressed by the chairman, it was a member of the board who made the statement.

status – the amount of good news presented in the form of text is significantly greater than the amount of bad news (p<0.01). In terms of the average number of words used to present good news, companies classified as larger, improved performance and environmentally sensitive are found to use more words than the companies in their respective opposite groups. The difference in the average number of words used to present good news between FTSE4Good companies (110 words) and non-FTSE4Good companies (111.7 words) was not so obvious. Overall, there is significantly more good news than bad news, in terms of the number of words, presented in stand-alone reports (p<0.01)[159] thus supporting hypothesis H_{25}.

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[159] The average in the rankings of good news=278. The average in the rankings of bad news=169.

Table 7.1 The good news and bad news in texts in stand-alone reports

Event	Size						Listing status						Improved performance						Activity					
	B			S			4G			X4G			IP			XIP			ES			XES		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Good news	114	142.2	183.6	109	69.8	79.2	163	110.0	150.9	41	111.7	154.5	158	115.2	165.5	64	87.7	83.0	110	142.5	185.3	113	72.0	82.5
Bad news	114	28.2	44.2	109	17.9	27.8	163	21.9	36.7	41	25.6	40.3	158	24.2	39.8	64	20.8	31.0	110	32.2	44.5	113	14.3	26.0
p	< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***		

Notes: This table presents the good news and bad news in texts in stand-alone reports. In particular, number of stand-alone reports, mean words and standard deviation are shown. p is the significance value of difference in the rankings of total words between good news and bad news. *** represents a significant value of p at the 0.01 level in a two-tailed Mann-Whitney test.

7.2 Tables

Table 7.2 presents the amount of good news and bad news on environmental concerns, in tables presented in stand-alone reports. In the context of this study, the comparisons between good news and bad news in a table are made at two separate points, namely, immediate comparison and an over time comparison[160].

The result of a Mann-Whitney test for the immediate comparison indicated that activity and listing status significantly influenced the presentation of more good news than bad news[161]. When it concerns the influence of activity, environmentally sensitive companies presented significantly more good news than bad news, as compared to that presented by the environmentally non-sensitive companies. When it concerns the influence of listing status, FTSE4Good companies are found to have presented significantly more good news than bad news, as compared to that presented by the non-FTSE4Good companies. The results of a Mann-Whitney test for the over time comparison indicated that FTSE4Good companies presented significantly more good news than bad news, as compared to that presented by the non-FTSE4Good companies ($p<0.1$). Overall, the results of a Mann-Whitney test suggested that there is significantly more good news than bad news in tables presented in stand-alone reports ($p<0.05$)[162], thus supporting hypothesis H_{27}. Presented below in Figure 7.1 is an example of presentation of good news versus bad news in tables.

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[160] Immediate comparison (IC) for an item refers to a comparison made between data for the current reporting year and data for the previous reporting year. As an example, if the current reporting year of a stand-alone report is 2005, then the previous reporting vis-à-vis immediate year is 2004. Comparison over time (OC) for an item refers to a comparison made between data for the latest reporting year in the table and data for the first reporting year in the table provided that the gap between these two years is more than one. As an example, if the last reporting year is 2005 then the possible over time comparison year for OC is any one year from 2000-2003 inclusive.

[161] The Mann-Whitney test is significant at the 0.1 level for activity characteristic, whereas for listing status, the result is significant at the 0.05 level.

[162] The p value=0.0283. The average in the rankings of good news=236. The average in the rankings of bad news=211.

Table 7.2 The good news and bad news in tables in stand-alone reports

Event	Size Big			Small			Listing status 4G			X4G			Improved performance IP			XIP			Activity ES			XES		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Good news [IC]	114	6.6	8.5	109	5.7	11.0	163	6.3	9.9	41	6.7	10.8	158	6.4	10.7	64	5.3	7.2	110	7.3	10.8	113	5.0	8.6
Bad news [IC]	114	4.3	6.4	109	3.4	7.2	163	4.0	6.7	41	4.4	8.4	158	4.1	7.1	64	3.4	6.1	110	4.4	7.1	113	3.4	6.5
p	0.11			0.11			0.05 **			0.40			0.14			0.11			0.07 *			0.18		
Good News [OC]	114	6.6	8.5	109	2.8	5.9	163	4.0	6.3	41	1.7	3.4	158	3.5	6.1	64	2.9	4.6	110	3.8	6.0	113	2.8	5.5
Bad News [OC]	114	4.3	6.4	109	2.0	5.0	163	2.3	4.5	41	1.2	2.6	158	2.1	4.5	64	1.7	3.1	110	2.5	4.8	113	1.6	3.4
p	0.15			0.33			0.08 *			0.93			0.17			0.43			0.28			0.19		

Notes: This table presents the good news and bad news in tables in stand-alone reports. In particular, number of stand-alone reports, mean and standard deviation are shown. IC=immediate comparison refers to comparison between the last presented year and the previous year. OC=comparison over time, refers to comparison between the last presented year and the first year. p is the significance value of difference in the rankings of total occurrence of good news and bad news. ** and * represent the significant value of p at the 0.05 and 0.1 level in a two-tailed Mann-Whitney test.

Figure 7.1 Presentation of good news versus bad news in tables

Environmental indicators	2003	2004	2005
Direct energy use	58.7 PJ	58.2 PJ	57.6 PJ
Total water use	67,100 ML	74,900 ML	75,300 ML
Greenhouse gas emissions (CO$_2$ equivalent million tonnes)	16.6	16.2	14.6
Sulphur dioxide stack emissions (tonnes)	245,454	229,291	238,564
Oxides of nitrogen stack emissions (tonnes)	–	1,477	1,112
Total recycling and reuse of water	89,000 ML	92,900 ML	98,900 ML

Immediate comparison:
 4 good news, 2 bad news

Over time comparison:
 4 good news, 1 bad news

(Source: Xstrata Sustainability Report 2005)

7.3 Photographs

This study compares all photographs featuring foreground images of humans with those featuring non-humans, in the stand-alone reports and annual reports of the selected companies, to determine the presence of impression management. Related to this, the analysis in this study also covers annual reports due to a lack of studies on impression management of photographs in annual reports. Further, the current study argued that the foreground images, rather than the background images, are the appropriate facet for analysis in determining those photographs with favourable messages. This is because the foreground, being the locus of attention, contributes significantly in specifying the category of a photograph[163]. Related to this, photographs depicting humans at a workplace and those featuring humans not at a workplace are compared. In the context of this study, a photograph of humans at a workplace is viewed as favourable, whereas a photograph of human not at a workplace is regarded as unfavourable.

Table 7.3 presents the number and percentage of photographs featuring humans at a workplace and humans not at a workplace, in stand-alone reports, and in annual reports. Overall, 67% (2,478 photographs) out of 3,728 photographs with human images in stand-alone reports portray humans at a workplace, while 33% (1,250 photographs) portray humans not at a workplace. Similarly, 81% (3,425 photographs) out of 4,212 photographs with human figures in annual reports portray humans at a workplace, while 19% (787 photographs) portray humans not at a workplace.

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[163] Normally, the foreground subject is taken into account when a photograph is to be given a title, or when writing a description of a photograph. A foreground subject also identifies the type of a photograph, for example, in the case of a portrait photograph, or a seascape.

Table 7.3 Humans at a workplace *versus* humans not at a workplace in photographs

Foreground subject	2000 SAR	AR	2001 SAR	AR	2002 SAR	AR	2003 SAR	AR	2004 SAR	AR	2005 SAR	AR	Total SAR	AR
Humans at a workplace	176	287	245	454	434	591	549	725	520	693	554	675	2478	3425
[%]	[69.3]	[85.7]	[63.0]	[83.8]	[60.6]	[80.5]	[68.5]	[73.8]	[65.2]	[85.2]	[72.0]	[83.9]	[66.5]	[81.3]
Humans not at a workplace	78	48	144	88	282	143	253	258	278	120	215	130	1250	787
[%]	[30.7]	[14.3]	[37.0]	[16.2]	[39.4]	[19.5]	[31.5]	[26.2]	[34.8]	[14.8]	[28.0]	[16.1]	[33.5]	[18.7]
All	254	335	389	542	716	734	802	983	798	813	769	805	3728	4212
[%]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]
p	0.06 *	< 0.01 ***	0.25	< 0.01 ***	0.03 **	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***

Notes: This table presents total photographs in stand-alone reports and annual reports. In particular, the total number of photographs of human in a workplace and human not in a wokplace and their percentages are presented. p is the significance value of difference in the rankings of total photographs of human in a workplace and human not in a workplace ***, ** and * represent significant value of p at the 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney test.

A Mann-Whitney test was subsequently employed, and the results suggested that the differences in numbers of photographs between those depicting humans at a workplace, and those depicting humans not at a workplace are highly significant for both annual reports and stand-alone reports (p < 0.01)[164]. This means that hypotheses H_{28a} and H_{28b} are supported. These results suggested that, generally speaking, there are significantly more photographs with favourable images, rather than unfavourable images[165], suggesting the presence of impression management.

Table 7.4 presents the influence of size, listing status, performance and activity on photographs of humans at a workplace presented in stand-alone reports[166]. Results from a Mann-Whitney test indicated that only company size and activity influence the number of photographs depicting humans at a workplace in stand-alone reports (p<0.01). When it concerns the influence of size, the larger companies presented significantly more photographs of humans at a workplace than is the case with the smaller companies (p<0.01). On average, the larger companies presented 13 photographs, as compared to the 9 photographs presented by their smaller counterparts. As for influence of activity, environmentally sensitive companies presented significantly more photographs of humans at a workplace than did environmentally non-sensitive companies (p<0.1). On average, the environmentally sensitive companies presented 13 photographs as compared to the 9 photographs presented by the environmentally non-sensitive companies.

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[164] In the case of annual reports, the average in the rankings of photographs of humans at a workplace is 282, while that for humans not at a workplace is 165. As for stand-alone reports, the average in the rankings of photographs of humans at a workplace is 262, while that for humans not at a workplace is 185.
[165] The results are significant at 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney test.
[166] There is an infancy of research on impression management in stand-alone reports, hence its selection.

Table 7.4 The influence of company chars on photographs of human at worksite in stand-alone reports

Variables	Total	Size		Listing status		Performance		Activity	
		Big	Small	4Good	X4Good	IP	XIP	ES	XES
Total reports	223	114	109	163	41	158	64	110	113
Mean photographs	11.1	12.9	9.3	10.4	15.0	11	11.0	13.0	9.2
Std dev	11.0	10.4	11.4	10.0	14.2	11	11.6	13.0	8.3
Min photographs	0	0	0	0	0	0	0	0	0
Max photographs	59	45	59	59	50	50	59	59	33
p	-	< 0.01 ***		0.17		0.80		0.09 *	

Notes: This table presents details photographs of human at worksite in stand-alone reports. In particular, the total number of reports involved are shown. p is the difference in the mean rankings between the groups. *** and * represents a significant value of p at the 0.01 and 0.1 level in the two-tailed Mann-Whitney test.

7.4 Graphs

This study examined three aspects of impression management involving graphs presented in stand-alone reports[167]. The first is the presentation of more good news than bad news. The second is the presentation of distorted graphs. The third is bias in information presentations due to the presence of identifiable causes of distorted graphs and the use of special effects.

7.4.1 The presentation of good news bad news

Table 7.5 presents the amount of good news and bad news in graphs based on different company characteristics (size, listing status, improved performance, and activity). In this thesis, graphs are viewed as presenting good news if the performance for the current reporting year is better than that for the previous reporting year. By contrast, graphs are viewed as presenting bad news if the performance for the current reporting year is poorer than that for the previous reporting year. The number of incidents involving good news and bad news in graphs are compared to determine whether there are more incidents involving good news than bad news. If this is the case then the management is perceived to have used graphs for impression management. Similar to comparing good news and bad news for tables, the comparison involving graphs is also conducted at two separate occasions – immediate comparison, and an over time comparison[168].

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[167] Refer to chapter 4 of this thesis for more information.
[168] Immediate comparison (IC) refers to a comparison made of the column, or bar, of a graph, between the current reporting year and the year before. Comparison over time (OC) refers to a comparison made on the column, or bar, of a graph between the latest reporting year and the first year, provided that the gap between them is two or more years.

Table 7.5 The good news and bad news in graphs in stand-alone reports

Event	Size B			Size S			Listing status 4G			Listing status X4G			Improved performance IP			Improved performance XIP			Activity ES			Activity XES		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Good news [IC]	114	6.5	5.9	109	5.3	7.3	163	5.6	6.5	41	6.9	6.3	158	6.1	6.8	64	5.5	6.2	110	6.3	6.0	113	5.5	7.2
Bad news [IC]	114	2.9	3.6	109	3.1	5.1	163	2.9	4.2	41	3.5	4.5	158	2.8	4.0	64	3.5	5.2	110	3.3	4.5	113	2.7	4.3
p	< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			0.02 **			0.01 **			< 0.01 ***			< 0.01 ***		
Good news [OC]	114	6.3	5.9	109	4.2	5.1	163	5.0	5.3	41	6.0	5.3	158	5.2	5.3	64	5.5	6.5	110	6.4	6.1	113	4.2	4.9
Bad news [OC]	114	1.9	3.0	109	2.3	3.8	163	1.9	3.0	41	2.5	3.7	158	1.8	2.9	64	2.8	4.4	110	2.2	3.7	113	2.0	3.2
p	< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***			< 0.01 ***		

Notes: This table presents the good news and bad news in graphs in stand-alone reports. In particular, number of stand-alone reports, mean and standard deviation are shown. IC=immediate comparison, refers to comparison between the last presented year and the previous year. OC= comparison over time, refers to comparison between the last presented year and the first year. p is the significance value of difference in the rankings of total occurrence of good news and bad news. *** and ** represent the significant value of p at the 0.01 and 0.05 level in a two-tailed Mann-Whitney test.

Prior to the segregation of the sample companies into their respective groups, based on their characteristics, the mean values for favourable and unfavourable immediate comparison were, respectively, 5.9 and 3.0, while the mean values for favourable and unfavourable over time comparison were 5.3 and 2.1, respectively. Related to this, the results of a Mann-Whitney test indicated that management presented graphs with significantly more good news than bad news (p<0.01). This phenomenon remains unchanged after the segregation of companies in the sense that the amount of good news in graphs is found to be significantly more than that for bad news, for both the immediate comparison and the over time comparison (p<0.01). Hypothesis H_{26} is therefore supported.

7.4.2 Distorted graphs

Table 7.6 presents the number of distorted graphs in stand-alone reports of companies based on size, listing status, improved performance, and activity[169]. Similarly, the GDI of column or bar graphs is measured for the two separate occasions, immediate comparison and the over time comparison. The calculation for immediate comparison involves the column or bar graphs for the last and the previous reporting years. The calculation for over time comparison involves the column or bar graphs for the last and the first reporting years, provided that the gap between them is more than two years.

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[169] The presentation of a graph is classified as distorted if the value of the graph discrepancy index (GDI) between the two columns, or bars, in the graph is less than -5 or more than +5. Graphs of this nature are considered as improperly designed and constructed for the purpose of impression management.

Table 7.6 Distorted graphs in stand-alone reports

Desc	Size				Listing status				Improved performance				Activity			
	IC		OC		IC		OC		IC		OC		IC		OC	
	B	S	B	S	4G	X4G	4G	X4G	IP	XIP	IP	XIP	ES	XES	ES	XES
N	114	109	114	109	163	41	163	41	158	64	158	64	110	113	110	113
Mean	3.8	2.2	2.3	1.3	3.1	2.6	1.9	1.3	3.1	2.8	2.0	1.6	2.9	3.1	1.8	1.9
SD	5.2	4.4	3.5	3.0	4.8	3.8	3.3	2.2	4.8	5.2	3.3	3.4	4.7	5.1	3.4	3.2
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	29	27	16	19	29	12	16	9	29	27	16	19	27	29	19	16
p	< 0.01 ***		< 0.01 ***		0.63		0.56		0.31		0.19		0.66		0.47	

Notes: This table presents distorted graphs in stand-alone reports. In particular, number of stand-alone reports, mean and standard deviation for the respective groups are shown. IC=immediate comparison, refers to comparison between the last presented year and the previous year.
OC=comparison over time, refers to comparisonbetween the last presented year and the first year. p is the significance value of difference in the rankings of number of distorted graphs between respective groups. *** is the significant value of p at the 0.01 level in the two-tailed Mann-Whitney test.

On average, three graphs in the case of the immediate comparison, and two graphs in the case of the over time comparison, were distorted[170], thus supporting hypothesis H_{29}. Only size was found to influence the number of distorted graphs for both conditions (immediate comparison and an over time comparison). The results of a Mann-Whitney test indicated that larger companies presented significantly more distorted graphs than their smaller business counterparts for both the immediate comparison, and the over time comparison ($p < 0.01$).

7.4.3 Other identifiable causes of distorted graphs and special effects

Table 7.7 presents the number of graphs in stand-alone reports with other identifiable causes of distorted graphs and special effects[171]. Altogether, there are a total of eight different impression management strategies involving graphs (*vide* Chapter 4 *supra* for details). These strategies are: (1) a non-zero axis; (2) a broken axis; (3) a non-arithmetic scales; (4) a non-scaled axis; (5) negative values omitted/truncated; (6) multiple scales; (7) a 3-dimensional orthography; and (8) colour schemes[172]. Graphs with no special effects, or employing a special effect other than those that have been specified, are not part of this investigation. Three special effect strategies, including broken axis, non-arithmetic scale, and negative values omitted/truncated, were not detected, hence were not analysed. As a result, further analysis of other identifiable causes of distorted graphs and special effects involved only five impression management strategies – colour scheme, a non-scale axis, a non-zero axis, a 3-dimensional orthography, and multiple scales. These impression management

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[170] This means that the GDI involving the bar and column of graphs for IC and OC are either less than -5 or more than +5.

[171] A special effect in the context of the current study refers to the additional features of a graph to the extent that the present of these additional features resulted in a biased information presentation *vis-à-vis* impression management.

[172] It is totally based on the discretion of the management to employ any, or all, of these special effects to secure the attention of the readers on selected information. For instance, selected information is highlighted to convey a favourable impression on the performance of a company.

strategies are subsequently presented according to their ascending positions in the ranking of popular identifiable causes of distorted graphs and special effects used[173].

Overall, colour scheme appears to be the most popular impression management strategy for graphs. This strategy is employed for graphs presented in 44% (99 reports) out of 223 stand-alone reports. The second most popular impression management strategy is a non-scale axis, involving graphs presented in 29% (64 reports) out of 223 stand-alone reports. A non-zero axis is the third most popular strategy involving 13% (29 reports) while a 3-dimensional effect is the fourth popular strategy, involving 12.6% (28 reports), out of 223 stand-alone reports. Multiple scales are the least popular strategy among all the five impression management strategies investigated. Multiple scales are employed in only 5% (12 reports) out of 223 stand-alone reports. As the impression management strategies involving graphs are detected, hypothesis H_{30} is therefore supported.

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[173] This refers to the number of stand-alone reports that presented graphs with special effects. As an example, colour schemes appeared in graphs presented in a total of 99 stand-alone reports while multiple scales were used for graphs in only 12 stand-alone reports.

Table 7.7 Special effects and causes of distorted graphs in stand-alone reports

Special effect	Size B			S			p	Listing status 4G			X4G			p	Improved performance IP			XIP			p	Activity ES			XES			p	All		
	N	M	SD	N	M	SD		N	M	SD	N	M	SD		N	M	SD	N	M	SD		N	M	SD	N	M	SD		N	M	SD
Colour scheme	53	7.0	7.1	46	5.4	6.9	0.17	66	5.9	6.5	27	5.8	4.7	0.77	68	5.9	6.2	31	7.2	8.6	0.57	57	6.7	6.8	42	5.7	7.4	0.08 *	99	6.3	7.0
Non-scale axis	42	6.7	6.0	22	7.7	8.7	0.65	48	8.1	7.4	10	1.9	1.6	< 0.01 ***	52	6.8	7.2	12	8.4	6.0	0.21	28	5.5	5.3	36	8.3	7.9	0.08 *	64	7.1	7.0
Non-zero axis	16	3.9	3.4	13	3.6	2.8	0.96	22	3.9	3.3	4	3.0	2.7	0.59	21	4.1	3.3	8	2.9	2.4	0.31	19	4.1	3.5	10	3.2	2.3	0.61	29	3.8	3.1
3-dimensional	16	6.3	4.5	12	5.9	3.3	0.98	16	5.3	3.8	9	7.9	3.4	0.08 *	19	5.5	3.8	9	7.3	4.2	0.23	15	7.9	4	13	4.1	2.9	0.01 **	28	6.1	3.9
Multiple scale	7	1.1	0.4	5	2.4	1.7	0.08 *	6	1.5	0.8	5	2.0	1.7	0.75	9	1.7	1.3	3	1.7	1.2	0.91	11	1.6	1.3	1	2.0	-	0.30	12	1.7	1.2

Notes: This table presents special effects in graphs in stand-alone reports. In particular, total stand-alone reports, mean graphs and standard deviation are shown. p is the significance value of difference in the rankings of total occurrence of special effects between the respective groups. ***, ** and * represent a significant value of p respectively at the 0.01, 0.05 and 0.1 level in a two-tailed Mann-Whitney test.

Size, listing status, and activity appear to influence, to a certain extent, in the employment of identifiable causes of distorted graphs, and the use of special effects. The size of the company influenced the use of multiple scales. Related to this, there are significantly more graphs with multiple scales presented by smaller companies than by larger companies ($p<0.1$). Listing status influenced the employment of non-scale axis as well as 3-dimensional effects in graphs. When it concerns the former, the FTSE4Good companies rather than the non-FTSE4Good companies, presented significantly more graphs with non-scale axis ($p<0.01$). The opposite scenario is observed in the case involving the 3-dimensional effects where the non-FTSE4Good companies rather than FTSE4Good companies presented significantly more graphs with 3-dimensional effects ($p<0.05$). Activity influenced the employment of colour schemes, non-scale axis, and 3-dimensional graphs. Related to this, the environmentally sensitive companies rather than environmentally non-sensitive companies presented significantly more graphs with colour schemes, and 3-dimensional effects, at the 0.1 and 0.01 levels, respectively, in a two-tailed Mann-Whitney test. However, the environmentally non-sensitive companies rather than environmentally sensitive companies presented significantly more graphs with non-scale axis ($p<0.1$).

7.5 Summary

This chapter presents the findings from the analyses conducted to examine the use of photographs in annual reports and stand-alone reports, and graphs, tables, and texts in stand-alone reports for impression management. Generally, all the presentation formats are found to have been used to present more favourable, rather than unfavourable, information. When it concerns photographs, companies are found to have presented significantly more photographs depicting humans at a workplace rather than humans not at a workplace. Graphs, tables and texts are used to present significantly more good news than bad news. Specifically for graphs, companies are

found to have presented distorted graphs as well as graphs with other identifiable causes of distortion, and special effects to portray a more favourable image of the company than is warranted. Also discovered in this study is the influence of company characteristics on the employment of related presentation formats in stand-alone reports for impression management. Related to this, size of the companies is found to have an influence on the use of photographs, texts, and graphs. Performance is found to have an influence on the use of texts and graphs. Listing status influenced the use of tables, and graphs, while activity appears to have an influence on the use of photographs, tables, texts and graphs. Generally, all these findings suggested that management used annual reports and stand-alone reports as vehicles for impression management.

Chapter 8: Discussion and conclusion

8.0 Introduction

This chapter summarises the findings, presents the limitations of the current study, suggests areas for future research, and concludes this thesis. The findings of the current study, as reported in Chapter 5-7 *supra*, are viewed as having implications on the underlying theories, the literature, and also on the actual practice. These implications are discussed accordingly in this chapter. The presentation of this chapter is structured in such a way to mirror the research questions (RQ), as explored in the current study. The following section, Section 8.1, discusses the findings from the analyses on the length of annual reports and stand-alone reports. The next section, Section 8.2, discusses the findings from the analyses of presentation formats of photographs, graphs and tables in those reports. Then, Section 8.3 discusses the findings from the analyses on the influence of company size, activity, performance, and listing status on the presentation of photographs, graphs and tables in annual reports and stand-alone reports. A discussion on the findings related to impression management practices involving photographs in annual reports and stand-alone reports, and graphs, tables, and texts in stand-alone reports is presented after that, in Section 8.4. The subsequent section, Section 8.5, discusses the implications of the findings of this study on the underlying theories and practices. The next section, Section 8.6, discusses the limitations of this study. The contributions of this study are discussed after that, in Section 8.7. Then, Section 8.8 presents suggestions for future research. The last section, Section 8.9, presents the concluding remarks that end this thesis.

8.1 The length of annual reports and stand-alone reports (RQ1)

The annual reports and stand-alone reports of selected companies are found to have increased in their length over the years. Related to this, both hypotheses H_{1a} and H_{1b} are supported[174]. When it concerns the increase in the length of annual reports, the findings of this study are consistent with findings reported in the previous studies of Lee (1994), Davison and Skerratt (2007) and Beattie et al. (2008). In their recent study, Beattie et al. (2008) reported that the average number of pages of annual reports for 2004 is 75 pages. The current study further extends the time period relating to the length of annual reports from 2004 to 2005. Related to this, the average number of pages of annual report in 2005 is 138, an increase of 84% from 75 pages in the previous year as reported in Beattie et al. (2008). The actual cause for the increase in the length of annual reports was beyond the scope of this study, hence was not examined. Previous studies however argued that the increase in the length of annual reports over time is results from the increase in the regulatory disclosure (Wallace and Cooke, 1990; Davison and Skerratt, 2007), together with an increase in voluntary disclosure (Gray et al., 1995; Beattie et al., 2008). Annual reports are the main reporting document that the companies produced (Firth, 1979; Samuels, 1993; Pava and Epstein, 1993; Botosan, 1997). As such, annual reports are the company's most important and valuable reporting instrument (Hines, 1982; Vergoossen, 1993; Beattie and Jones, 1998). As earlier stated, there is specific information that companies need to disclose in annual reports as part of their regulatory reporting obligation. Thus, the disclosure of voluntary information in addition to the regulatory disclosure would certainly increase the length of annual reports (see Trotman and Bradley, 1981; Grey et al., 1995a; Savage, 1998; Nieminen and Niskanen, 2001; Tilt, 2008). Taking this into consideration, this researcher argues that while companies dutifully address the need to comply with the regulatory disclosure, the availability of voluntary disclosure enhances their ability to compete in

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[174] Details on the findings in presented in Chapter 5 of this thesis, *supra*.

the capital market. Generally, the findings imply that the companies are committed to providing sufficient information to shareholders and other stakeholders, to enable them to make informed decisions.

The increase in environmental awareness over the years also saw an increase in the number of pages of stand-alone reports over time. This study found that the average number of pages of stand-alone reports of selected companies has increased from 30 in 2000 to 58 pages in 2005. Companies are aware that in order to survive, they need to demonstrate their commitment towards enhancing the wellbeing of their shareholders and other stakeholders including the natural environment. Azzone et al. (1997) postulated that companies demonstrated their environmental commitment by increasing the amount of social and environmental disclosure. By so doing, they are able to tell their own side of the story in the environmental debate (Cerin, 2002). Interpreted through the lens of Signalling Theory, companies are disclosing some additional information to complement the information that they already provide in the annual reports. This information, in its own right, offers additional exposure to participants in the capital market about the companies. The companies also, by presenting the social and environmental information, are sending out signals of their willingness to do their part in improving the general life and well-being of the society and other stakeholders.

Stand-alone reports are produced voluntarily[175]. This also means that the information and the manner in which this information is presented, is entirely at the discretion of the reporters. Generally speaking, since no regulatory disclosure is required, the stand-alone reports would contain fewer pages as compared to the annual reports. The findings of the current study are consistent with this contention and thus,

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[175] This study analysed the presentational aspects of annual reports and stand-alone reports, not the mandatory and voluntary information that had been presented in these reports.

hypothesis H_{1c} was supported. Statistically, the average number of pages of annual reports (116 pages) is significantly greater than the number of pages of stand-alone reports (43 pages).

The increase in the length of annual reports and stand-alone reports reflects, to a certain extent, the committed of companies to good reporting practices. The companies by disclosing more information, are perceived to provide shareholders and other stakeholders, with sufficient information for them to make informed decisions, and thus are more likely to increase their overall reputation.

8.2 Presentation formats (RQ2 & RQ3)

This study analysed photographs, graphs, and tables presented in the annual reports and stand-alone reports of selected companies for the period 2000–2005 inclusive. The study did not concentrate on one particular presentation format because according to Davis (1989), there is no single presentation format that is best in all situations. Rather, they complement each other in presenting information of various types to influence the readers, one way or the other (Feldman and March, 1981). In addition, the framing of decisions according to Tversky and Kahneman (1986) depends on various factors that include, *inter alia*, the 'language' of the presentations, the choice of context, and the nature of the display. In this study, these arguments are well supported. More than 80% of annual reports and stand-alone reports that the researcher had examined presented collectively photographs, graphs, and tables.

Overall, photographs are ranked first and second in the ranking of popular presentation formats in stand-alone reports and annual reports, respectively. The number of photographs in both, the annual reports and stand-alone reports was

found to be stable throughout the 6-year period of investigation[176]. Both hypotheses H_{2a} and H_{2b} were not supported suggesting that there was no significant increase, either in annual reports or stand-alone reports, in the number of photographs presented over time. The mean number of photographs in photograph-using stand-alone reports and annual reports are 27.8 and 30.1, respectively. Related to this, hypothesis H_3 was not supported, indicating that there is no significant difference in the number of photographs presented as between annual reports and stand-alone reports.

Specifically on annual reports, the findings of this study suggested that the average number of photographs has increased from 6 in 2004, as reported in Beattie et al. (2008) to 23 photographs in 2005. Considering that the average length of annual reports and stand-alone reports were 116 pages and 43 pages, respectively as reported in the previous section, Section 8.1 above, readers may encounter a photograph more often in a stand-alone report than in an annual report. This is because on average, a photograph is presented in every second page of a photograph-using stand-alone report, as compared to photograph-using annual reports where a photograph is encountered in every fourth page of the report[177].

The voluntary nature of stand-alone reports offers flexibility to the reporters and this enables them to design the strategic presentational concepts of the reports. The presentation of more photographs especially coloured photographs, would transform the reports, from otherwise dull and uninteresting reading material, into a visually attractive documents (Wilmshurst and Frost, 2000; Beattie et al., 2008). The beautifully presented report may stir the readers' interest to keep on reading the

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[176] Details on the findings from the analyses on a total of 11,821 photographs, 6,062 graphs and 28,678 tables in 446 reports (consisting of 223 annual, and 223 stand-alone reports) are presented in Chapter 5 of this thesis, *supra*.

[177] Precisely, there is a photograph in every 1.55 pages of photograph-using stand-alone report and every 3.85 pages of photograph-using annual reports.

report right to the end. Hypothesis H_4 however, was not supported suggesting that there is no difference in the amount of report space occupied by photographs between annual reports and stand-alone reports. Both annual reports and stand-alone reports were found to have a total of 4 pages of their report space occupied by photographs, on average. This means that, on average, the size of a photograph presented in photograph-using annual reports and photograph-using s tand-alone reports are 0.13 and 0.14 of a page, respectively. The findings in this study suggest that the space occupied by photographs in annual reports has decreased from 6 pages in 2004 as reported in Beattie et al. (2008) to 3.9 pages in 2005. This finding however, needs to be read with caution due to the difference in both the measuring technique, and the instrument used in these studies.

Companies use photographs as a tool in communicating the corporate image that they intended to portray. This is because photographs are able to reinforce the point of view of the reporters (Gamson et al., 1992) as well as to validate the data presented in the form of text (Buchanan, 2001). When it concerns the stand-alone reports, photographs are used, *inter alia*, to emphasise the company's social and environmental commitment/performance. As Buchanan (2001) contended, photographs capture the detail of social reality, offering holistic representations of lifestyles and conditions. Related to this, this study found that there were more photographs with the foreground images of humans not at workplace and a nature in stand-alone reports than in annual reports. Meanwhile, both annual reports and stand-alone reports were found to have contained more photographs of humans at a workplace than photograph of other photographic themes. That said, there are more photographs of humans at a workplace in annual reports than in stand-alone reports. This issue however, will be discussed in a greater detail in a dedicated section on impression management, section 8.4 below.

In this study, hypothesis H_5 was supported suggesting that companies presented significantly more portrait photographs in annual reports than in stand-alone reports. In fact, portrait photographs in annual reports in term of percentage were found to have increased consistently over the years. As companies disclose information of their financial performances in annual reports, the presentation of portrait photographs helps to persuade readers of the credibility of the reports in general (Graves et al., 1996) and in particular, the truthfulness of information (Graves et al., 1996; Buchanan, 2001). Also, in a way, the findings of this study in relation to the presentation of portrait photographs, appears to be consistent with Campbell et al. (2009) who reported a significant increase in human representations in photographs, in the form of human faces.

Hypotheses H_{6a} and H_{6b} of this study were also supported. This means that the number of photographs depicting men is significantly greater than the number of photographs featuring women, in both the annual reports and stand-alone reports. This finding is therefore consistent with the findings reported in Kuiper (1988) and Benschop and Meihuizen (2002). Also, there are more photographs of a single man, rather than a group of men, presented in annual reports, which is consistent with the findings reported in Benschop and Meihuizen (2002). In fact, photographs of a single man are presented significantly more often in annual reports than in stand-alone reports. Although readers make sense of visual images in a number of ways (Bargh, 2002), there appears to be a general consensus of what men and women in photographs are reflecting on. Related to this, men in photographs reflect power, rationality, emotional stability, aggressiveness, self-reliance, objectivity, and vigour (Kuiper, 1988; Kolmar and Bartkowski, 2005). In contrary, women in photographs stereotypically reflect emotional instability, followers, and dependence (Frasher and Walker, 1972; Purcell and Stewart, 1990). In a way, photographs depicting men,

rather than, women are use to signal the management's credentials in managing the company well and thus imply good growth potential.

Generally this researcher argues that the attributes of photographs presented between annual reports and stand-alone reports were not significantly different. Except for some specific images that are used to promote the specific purpose of the respective report[178], other aspects of photographic presentations are more or less equal between the annual reports and stand-alone reports. They include, *inter alia*, the amount of report space occupied by photographs, the favourite theme for the foreground subject[179], and also men as the favourite gender in photographs.

Overall, graphs are ranked second and third in the ranking of popular presentation format in stand-alone reports and annual reports, respectively. On the whole, the mean number of graphs in annual reports (15.1) is significantly more than that for stand-alone reports (12.1). Hypotheses H_{7a} and H_{7b} were supported which means that there was no significant increase in the number of graphs presented over time in either annual reports or stand-alone reports. The mean size of graphs presented in stand-alone reports is 0.7 of a page. Further, 50% of graphs presented in the stand-alone reports were found to be in compliance with the nine environmental themes suggested in the G3 Guidelines of the Global Reporting Initiative, Sustainability Reporting Framework, suggesting a bright future for a standardisation in the social and environmental reporting. Related to this, the top three themes are emissions, effluents and waste; energy; and water.

In this study, hypothesis H_{7c} was not supported suggesting that there is a significant difference in the number of graphs between annual reports and stand-alone reports.

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[178] There are more portrait photographs presented in annual reports while socially and environmentally related photographs are presented more in stand-alone reports.
[179] This refers to photographs of humans at the workplace

Related to this, there are significantly more graphs presented in annual reports than that in the stand-alone reports. This is true since readers used annual reports, *inter alia*, to review the potential for growth in the value of a company (Pijper, 1993; Pava and Epstein, 1993). The presentation of such information in the form of a graph enhances the decision quality as graphs make it easier for the readers to see patterns, show detailed information on specific alternatives, and provide a context for evaluating focal information (see Lurie and Mason, 2007). Meanwhile, graphs also are presented in stand-alone reports to serve other reporting purposes that include, *inter alia*, portraying a more favourable image of the company than is warranted. This issue will be discussed in a greater detail in a dedicated section on impression management, section 8.4 below.

Tables, on overall, are ranked first and third in the ranking of popular presentation formats, in annual reports and stand-alone reports, respectively. In this study, hypothesis H_{8c} was supported, suggesting that the number of tables is significantly greater in annual reports than in stand-alone reports. Indeed, the mean number of tables presented in annual reports is 121.6 as compared to the mean number of 7 tables presented in stand-alone reports. This finding has already been anticipated as the companies use annual reports to communicate, *inter alia*, their financial information. The nature of financial information in the annual reports practically requires it to be presented in the form of a table. The use of tables enables the readers to have a better grasp on information of this nature, thus enhancing their ability in making decisions. Hypothesis H_{8a} was also supported suggesting that the number of tables presented in annual reports increases over time. This is obvious as the mean number of tables in annual report in 2000 was 106.5 whereas in 2005, the mean number of tables presented in annual reports is 148. Meanwhile, hypothesis H_{8b} was supported suggesting that the number of tables presented in stand-alone reports also increases over time. Related to this, the mean number of tables in stand-

alone reports was found to have increased from 7.0 in 2000 to 10.1 in 2005. Apart from enhancing the readers evaluating ability of making decisions, tables also are presented in stand-alone reports to serve other reporting purposes, including, *inter alia*, portraying a more favourable image of the company than is warranted. This issue will be discussed in a greater detail in a dedicated section on impression management, section 8.4 below.

8.3 The influence of company characteristics on presentation format (RQ4)

Size, activity, and listing status were found to influence to a certain extent, the number of photographs, graphs, and tables presented in annual reports and stand-alone reports of selected companies. This study however detected no influence of performance on the number of photographs, graphs, and tables presented in these two different types of reports. Size was found to have an influence on the length of both the annual reports and the stand-alone reports as well as on the number of tables presented in these two types of reports. Related to this, hypotheses H_{9a}, H_{9b}, H_{12a}, and H_{12b} were all supported. Also, size was found to have influenced the number of photographs and graphs presented in the stand-alone reports but not in the annual reports. As such, only hypotheses H_{10b} and H_{11b} were supported while hypotheses H_{10a} and H_{11a} were not supported. These results suggested that the larger companies, rather than the smaller companies, were found to have presented more photographs and graphs in stand-alone reports. It is worth noting that photographs and graphs are ranked first and second positions in the ranking of favourite presentation formats in the stand-alone reports. Meanwhile, photographs and graphs are ranked in second and third positions in the ranking of favourite presentation formats in the annual reports. However, in general, the results demonstrate that the level of disclosure which is more, rather than less, for larger companies, acts as a signal of their competitiveness and superiority over their smaller business counterparts. This finding is consistent with the previous studies of

Gray et al. (1995b) and Brammer and Pavelin (2008) who also reported that size has an influence on information disclosure.

Activity was found to have an influence on the length of annual reports, the number of tables presented in annual reports, and the number of graphs presented in stand-alone reports. Related to this, hypotheses H_{17a}, H_{19b}, and H_{20a} were all supported while hypotheses H_{17b}, H_{18a}, H_{18b}, H_{19a}, and H_{20b} were not supported. When it concerns graphs in stand-alone reports, the environmentally sensitive companies were found to have presented more graphs than the environmentally non-sensitive companies. Related to this, the environmentally sensitive companies are argued to have employed graphs as a vehicle to portray a more favourable image than is warranted. This issue will be discussed in a greater detail in a dedicated section on impression management, section 8.4 below. Meanwhile, the phenomenon involving the influence of activity on the length of annual reports and the number of tables in the annual reports went in the opposite directions from what the current study had predicted. The result shows that it was the environmentally non-sensitive companies, instead of the environmentally sensitive companies, that were found to have presented more pages of annual reports. Similarly, more tables were found to have been presented in the annual reports of environmentally non-sensitive companies than that for the environmentally sensitive companies. Indeed, out of a total of 14 largest companies from the top three sectors, 71% (10 companies) are regarded as the environmentally non-sensitive companies (*vide* Chapter 4 for detail), hence a possible explanation for the related findings. Therefore, these findings need to be read with caution due to the possible effect of size, which was not controlled for during the analysis[180].

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[180] Out of 14 largest companies from the top three sectors with larger companies in terms of size, 10 companies are regarded as environmentally non-sensitive companies while only 4 companies are regarded as environmentally sensitive companies.

Listing status was found to have an influence on the number of graphs presented in stand-alone reports. Related to this, hypothesis H_{23b} was supported. Indeed, the non-FTSE4Good companies are found to have presented more graphs than that for the FTSE4Good companies. As the non-FTSE4Good companies are generally the environmentally sensitive companies, this finding appears to mirror the earlier finding with respect to the activity of the companies. This result has been anticipated due to a significant correlation between the two characteristics as tested using the Spearman's correlation coefficient (*vide* Chapter 6 for detail). This issue related to the employment of graphs in stand-alone reports will be discussed in a greater detail in a dedicated section on impression management, section 8.4 below. Further, hypothesis H_{24a} was supported but the findings related to the presentation of tables in annual reports also appear to mirror the earlier findings involving company activity. Related to this, it was the FTSE4Good companies, rather than the non-FTSE4Good companies that were found to have presented more tables in annual reports. This finding however, needs to be read with caution due to the possible effect of size, which was not controlled for during the analysis. Apart from the above, there was no further influence of the listing status been discovered which means that hypotheses H_{21a}, H_{21b}, H_{22a}, H_{22b}, H_{23a}, and H_{24b} were all not supported.

This study observed no influence whatsoever of performance either on the length of annual reports and stand-alone reports or on the number of photographs, graphs, and tables presented in these reports, which means that hypotheses H_{13a}, H_{13b}, H_{14a}, H_{14b}, H_{15a}, H_{15b}, H_{16a}, H_{16b} were all not supported. That said, the findings related to the insignificant influence of performance in the current study are consistent with those of Freedman and Jaggi (1988), Berkaoui and Karpik (1989), and Fortanier and Kolk (2007). In all these studies, profitability was reported to have no influence whatsoever on the corporate social (and environmental) reporting. This however needs to be read with caution as the analysis on the influence of company

characteristics on presentation formats for this study did not include texts. Meanwhile, the findings from this study related to the influence of size, activity and listing status on stand-alone reports, in particular, are consistent with previous studies. Related to this, Tonkin and Skerratt (1991) reported that size influenced the corporate social (and environmental) reporting, while the influences of industry on corporate social (and environmental) reporting are reported in Freedman and Jaggi (1988) and Zeghal and Ahmed (1990).

8.4 Impression management (RQ5)

This study investigated the presence of three different impression management strategies namely thematic manipulation, performance comparison, and visual and structural manipulation. Overall, all these strategies were found to have been employed to a certain extent, on all the four presentation formats – texts, tables, graphs, and photographs – presented in the annual reports and stand-alone reports of selected companies. Companies are asserted to have exercised an impression management when these presentation formats are presented in such ways to portray a more favourable image of the company than is warranted.

Generally, hypothesis H_{25} was supported suggesting that more good news (80%) than bad news (20%) on global warming in the form of texts was presented in the stand-alone reports of selected companies. This impression management strategy of thematic manipulation was found to have been widely exercised across companies of different characteristics. That said, incidents involving larger companies, improved performance companies, and environmentally sensitive companies appear to be more prevalence than for companies in the opposite groups of respective categories. Overall, this finding indicated that the presentation of more good news than bad news is not limited to annual reports only (see Tauringana and Chong, 2004; Balata and Breton, 2005; Clatworthy and Jones, 2006) but rather extended to include reporting

documents other than annual reports. Also, the finding suggested that the management when given an opportunity would portray a more favourable image of the companies than is warranted.

When it concerns the impression management strategy of performance comparison, tables and graphs in stand-alone reports, were found to have presented more good news than bad news. Related to this, both hypotheses H_{26} and H_{27} were supported. Tables and graphs were found to have presented more incidents of favourable performance (60% for tables and 70% for graphs) in the current reporting year as compared to the previous year. This is true when the comparison on the performances was made for the latest 2 years performances as well as between the latest reporting year's performance and the first reporting year's performance where the gap in the time period is more than 2 years[181]. Albeit differing in terms of reporting medium, the performance comparison for graphs in the stand-alone reports is, to a certain extent, consistent with the earlier findings involving annual reports as reported in Beattie and Jones (1992, 1997, 1999), and Beattie et al. (2008).

The current study also analysed the impression management tactic of visual and structural manipulation involving photographs in annual reports and stand-alone reports and graphs in stand-alone reports. Photographs depicting images of humans presented in annual reports and stand-alone reports were classified as either favourable or unfavourable. This study classifies favourable photographs as those photographs depicting humans at the workplace while unfavourable photographs are those depicting humans not at a workplace. The approach employed in classifying photographs as favourable or unfavourable, albeit simple and rather naïve is argued to be justified as viewers according to Bargh (2002) are the ones who make their own

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[181] As the performance comparison involving tables is relatively unstudied, the current study applies the same approach in determining the impression management strategy of performance comparison in graphs for the tables.

interpretation of visual images in photographs. Overall, this study found that there are more photographs of humans at a workplace (74%) than photographs of humans not at a workplace (26%). Hypotheses H_{28a} and H_{28b} are supported suggesting that companies presented more favourable rather than unfavourable photographs in both annual reports and stand-alone reports. By presenting photographs of humans at a workplace, the management attempts to portray the enjoyable working condition, the efforts, and also the commitment of the employees to generating wealth for the shareholders. Related to graphs presented in stand-alone reports, both hypotheses H_{29} and H_{30} were supported suggesting that the impression management strategy of structural manipulation and the used of visual effects were employed. When it concerns structural manipulation, distorted graphs with a GDI value greater than +5% or less than -5% and also graphs with identifiable causes of distortion (e.g., the use of non-scale axis, non-zero axis, and multiple scales) were found to have been presented. Similarly, the causes of visual manipulation of graphs (e.g., the use of colour schemes to highlight selective information and the presentation of 3-dimensional graphs) were also detected. The findings related to the manipulation of graphs in stand-alone reports mirror, in a way, the similar findings involving annual reports as reported in Beattie et al. (2008).

Overall, the findings suggested that photographs in annual reports and stand-alone reports and text, graphs, and tables in stand-alone reports are used so as to portray a more favourable image of the companies than is warranted.

8.5 Implications of findings

The findings of the current study are claimed to have an implication on the underlying theories, as well as on the actual practices[182]. When it concerns the underlying theories, the findings are viewed to have an implication on both Signalling Theory

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[182] See Appendix I for a summary of results.

and Impression Management. Signalling Theory in the context of this study, suggests that the companies have an incentive to send signals about their ability, credibility, and superiority in meeting the expectations of the shareholders and other stakeholders more successfully than their competitors. These signals are important in enhancing their competitive advantages as these companies need to compete in order to secure resources from the capital market. The findings of the current study appear to be consistent with Signalling Theory. Overall, larger companies, rather than smaller companies, were found to have a higher level of information disclosure in both the annual reports and stand-alone reports as demonstrated by the increase in their lengths over time. The contribution of this study to Signalling Theory is related to the use of photographs as a vehicle to signal the management's credentials and the company's superiority over their competitors. There are more photographs of men, rather than women, been presented in both the annual reports and the stand-alone reports. Men in photographs are argued to reflect on power, rationality, emotional stability, aggressiveness, self-reliance, objectivity, and vigour (Kuiper, 1988; Kolmar and Bartkowski, 2005) while women in photographs stereotypically reflect emotional instability, followers, and dependence (Frasher and Walker, 1972; Purcell and Stewart, 1990). Similarly, the presentation of more portrait photographs in annual reports is consistent with Signalling Theory as portrait photographs are argued to signal the truthfulness of information (Graves et al., 1996; Buchanan, 2001).

It is argued that the ability of companies to raise capital is improved in tandem with an improvement in their reputation (Holthausen and Leftwich, 1983). This induces management to present the company's performance, and indirectly their own performance, in the best possible light that could lead to 'selective information representation' (Revsine, 1991) so as to portray a more favourable image of the company than is warranted. Related to this, the impression management strategies

Impression Management is related to the use of photographs in annual reports and stand-alone reports, and in tables in stand-alone reports to impress the readers of these reports. Indeed, there are a substantial number of prior studies that investigate the use of texts and graphs for impression management but the use of tables and photographs for impression management is relatively unstudied. Related to this, more photographs of humans at a workplace, rather than photographs of humans not at a workplace, are presented. Similarly, more tables that produce a favourable, rather than unfavourable, performance comparison pertaining to global warming are presented.

The results of this study also provide an insight into the corporate reporting practices, with the purpose of improving the trustworthiness of reported information. The findings concerning the employment of impression management in the various information presentation vehicles that this study were focusing on — texts, tables, graphs, and photographs — reiterate the need to establish procedures that cover the various facets of information presentation in an attempt to improve the information trustworthiness in corporate reporting documents. The users of corporate documents are the other parties who will benefit from this study. The new insight into the different impression management strategies that are employed on presentation formats may be factored into their decision making model, as distorted information presentations may results in bias in decision making.

8.6 Limitations of study

The objective of this study is to document the use of different formats for information presentation, and whether the presentation of these various formats are managed so as to portray a more favourable image of companies than is warranted. Inevitably, constraints on the sample and the design of the study generate some limitations on this objective.

The unit of measurement of size for photographs and graphs in the context of this study is portion of a page. Indirectly, it refers to the number of boxes with an equal size being occupied by a photograph or a graph to indicate its size. These boxes are produced by dividing a clear A4 size transparency into five equal size columns and twenty equal size rows. This transparency is placed on the top of a photograph or a graph and the number of boxes occupied by a photograph or a graph is counted. The measurement therefore represents a rough estimation of the size of a photograph or a graph. As such, a variance in the size is expected to occur. Although not accurate, this measuring instrument introduced in Gray et al. (1995b) and subsequently employed in Unerman (2000) is commonly used in research of this nature. Despite of this caveat, the use of a single coder for this study helped to ensure that a standard measuring procedures was maintained throughout the data collection process.

This study classifies images of photographs in annual reports and stand-alone reports into six different themes. These themes are *humans at a workplace, humans not at a workplace, a workplace, nature, animals*, and *others*. The theme of *others* is found to occupy the fourth position in the rankings of favourite themes for foreground subject in photographs (12%) after the photographic themes of *humans at a workplace* (50%), *humans not at a workplace* (17%), and *a workplace* (16%). In the fifth position is the theme of *nature* (4%), while the theme of *animals* occupies the last position (1%). Had the theme of *others* been divided into more specific photographic themes, a clearer picture of the additional themes in photographic presentations could have been established. It is due to the clarity issue of subject matter that a discussion on photographic theme of *others* cannot be carried out.

The amount of discretionary as well as voluntary information is not examined in this study. As such, the contributing factors for the increase in the length of annual reports were unavailable. This limitation also prevented the comparison being made

with the previous study of Davison and Skerratt (2007) on the changes in the amount of discretionary and voluntary information presented over time.

The comparison of the attributes of presentation formats between annual reports and stand-alone reports is limited to photographs only due to a time constraint. Even on photographs alone, this researcher had to collect detailed information from a total of 5,866 photographs in annual reports and a total of 5,955 photographs in stand-alone reports. That said, this constraint is unavoidable due to the restricted nature of a PhD research.

8.7 Contributions of study

This study despite having some limitations, contributes to the literature on information disclosure in a number of ways. Firstly, and to the best knowledge of the researcher, this is the first study that ranks and compares the presentation formats of photographs, graphs, and tables between annual reports and stand-alone reports. Studies prior to this study had presented their findings on photographs and graphs presented only in annual reports (see Lee, 1994; Davison and Skerratt, 2007; and Beattie et al., 2008). The comparison enhances knowledge of the different presentational structures for annual reports and stand-alone reports, albeit by the same reporters. In a way, the finding suggests that the companies exploit the presentational aspects of the reports to satisfy their intended objective. Also, there is no study prior to this study that examines and reports on the content of stand-alone reports. The availability of information on the content of corporate documents at the time of this research was limited to annual reports only (see Lee, 1994; Davison and Skerratt, 2007; and Beattie et al., 2008).

Secondly, this study employs a meticulous approach in photographic analysis. This study, to the best knowledge of the researcher, is the first study that analysed images

of a photograph by distinguishing between foreground images and background images, thus minimising the propensity for the researcher's personal opinion to intrude when describing images in photographs. Previous studies in the context of the UK, focused either on the space occupied by photographs (Lee, 1994; Davison and Skerratt, 2007; Beattie et al., 2008) or on selected images in photographs (Campbell et al., 2009). The approach used in analysing photographs in this study is argued to enhance the neutrality and unbiased description of images in photographs.

Third, this study extends the findings on the contents of annual reports from 2004 (Beattie et al., 2008) to 2005. Earlier, Beattie et al. (2008) claimed to have extended the information related to the content of annual reports from 1965 (Lee, 1994). In addition, this study to the best knowledge of the researcher is the first to present the information on the number of tables in the annual reports. This knowledge helps to provide a more rounded picture of the various presentation tools for information disclosure.

Finally, this study provides empirical evidence that photographs in annual reports and stand-alone reports are used to portray a more favourable image of a company than is warranted. Beattie et al. (2008) argued that photographs are used for the purpose of public relations. This study, to the best knowledge of the researcher, is the first study that examines the use of photographs in annual reports and stand-alone reports for impression management. Also, this is the first empirical study that examines the use of a performance comparison strategy in tables to manage a favourable perception on the company. The findings enhance the knowledge of the availability of presentation mechanisms other than graphs (see Benbasat and Dexter, 1986; Steinbart, 1989; Beattie and Jones, 1992, 1999; Beattie et al., 2008) and texts (see Smith and Taffler, 1992; Tauringana and Chong, 2004; Balata and Breton, 2005; Clatworthy and Jones, 2006) that may be employed as vehicles for impression

management. Also, this study enriches the limited literature that concentrates on the employment of impression management in corporate reports other than annual reports (Elsbach, 1994; Neu et al., 1998; and Hooghiemstra, 2000 are notable exceptions).

8.8 Future research

This study compares and ranks the presentation formats in annual reports and stand-alone reports of companies in a developed country. Similar studies can be conducted involving companies in the developing countries such as Malaysia, to observe the information presentation approach employed by companies in those countries. The findings would enhance the knowledge of the similarities and differences in the patterns of information presentation between companies of those countries and companies in the UK (developing country versus developed country). Studies could also be conducted involving companies from different parts of the world to investigate whether geographical location can be used as a new variable that influences the pattern of information presentation. This is because cultures are known to be associated with geographical location. Also, a comparison could be made between family-owned and government-owned companies, to investigate whether the information presentation patterns between these companies differ.

The annual reports and stand-alone reports in this study had been reported to contain biased information presentations. Islam has taught its followers to be truthful in every aspects of a human life. A *shariah* compliance could be used to reflect to a certain extent, the faith in Islam for the management of companies. A *shariah* compliance company is a company that would only be involved in Islamic permissible activities. Related to this, future study can be conducted by examining the reports of *shariah* compliance companies to investigate the presence of impression

management in those reports. The findings would enhance the knowledge of the influence of faith on impression management exercises.

8.9 Concluding remarks

This study examines the presentation formats in 223 stand-alone reports and 223 annual reports for 2000–2005 of 46 FTSE100 companies in the UK, to determine,

■ the favourite presentation formats in annual reports and stand-alone reports

■ the differences in the attributes of photograph presentations between these two different types of reports

■ the use of photographs in annual reports and stand-alone reports, and graphs, tables and texts in stand-alone reports for impression management.

Also, this study investigates,

■ the changes in the length of annual reports and stand-alone reports over time

■ the influence of company characteristics on the number of photographs, graphs, and tables presented in annual reports and stand-alone reports

This study found that tables and photographs are ranked first and second, respectively, in the ranking of the favourite presentation formats employed in annual reports. However in stand-alone reports, photographs and tables are ranked first and third, respectively, in the ranking of the favourite presentation formats employed. Meanwhile, graphs are ranked second in annual reports and third in stand-alone reports, in the ranking of the favourite presentation formats employed. There were no significant different in the attributes of photographs presented between annual reports and stand-alone reports have been observed. Except for some specific images that are used to promote the intrinsic role of the respective reports, other

aspects of photographic presentations are more or less equal. These include the amount of report space occupied by photographs, the favourite theme for the foreground subject, and the favourite gender in photographs to name a few. Photographs in annual reports and stand-alone reports were found to presenting more, rather than, less favourable images. Likewise, graphs, tables and texts in stand-alone reports were found to presenting more favourable news than unfavourable news. The findings revealed that companies used stand-alone reports, in particular, as a vehicle to impress the readers about their overall performances. In this respect, the findings are consistent with the Signalling Theory and Impression Management. This study also found that the length of annual reports and stand-alone reports of selected companies are found to have increased over the years. Further, this study found that company size, activity, and listing status were found to influence to a certain extent, the number of photographs, graphs, and tables presented in annual reports and stand-alone reports of selected companies. This study however detected no influence of performance on the number of photographs, graphs, and tables presented in these two different types of reports. This study contributes in enriching the literature, specifically in the area of pictorial presentations in the annual reports and stand-alone reports.

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Appendix A. Studies on thematic manipulation

Author (Year)	Event	Sample source	Sample selection	Data analysis	Summary of results
Clatworthy & Jones (2003)	Good news and bad news in Chairman's Statement of annual report	FAME database, UK corporation database	100 UK listed companies (50 improving performers, 50 declining performers)	t-tests	Companies with improving performance concentrate on good news rather than bad news; companies with declining performance discuss both good & bad news or only good news
Kohut & Segars (1992)	Content of President Letter	Fortune 500	50 listed companies	t-tests	President Letters of good news companies longer than bad news companies
Abrahamson & Amir (1996)	Content of President Letters	Compact disclosure database	2680 President Letter, 1987-1988	Regression analysis	Bad news is negatively related with performance
Murray & White (2005)	Views from CEO on reputation management		14 CEO and Chairman of UK corporations and international organisations	Content analysis	Public relation is vital to enhance and protect reputations ·

Author (Year)	Event	Sample source	Sample selection	Data analysis	Summary of results
Clatworthy & Jones (2006)	Differential patterns of textual characteristics	FAME database for UK listed companies	Top and bottom 50 non-financial companies	t-tests	Chairman's statement of unprofitable companies focus more on future, rather than past performance
Schroeder & Gibson (1990)	Readability of management's discussion and analysis	Fortune 500 and Fortune Service 500	40 sample firm	Flesch Index, Spearman Rank Correlation	Managers use narratives to impress rather than express
Courtis (2004)	Corporate report obfuscation	60 listed Asian companies from Hong Kong stock exchange	Content analysis	Flesch Index, Chi-square, Wilcoxon sign rank test	Obfuscation occurs in corporate communications.
Smith & Taffler (1992)	Readability and understandability of accounting narratives	66 failed and non-failed UK companies' Chairman narratives	Application software of Oxford Concordance Program (OCP)	CLOZE, LIX and FLESCH scores	Level of difficulty is high even to users with greatest sophistication.

Appendix B. Studies on visual and structural manipulation

Author (Year)	Event	Sample source	Sample selection	Summary of results
Benbasat & Dexter (1986)	Effectiveness of colour and graphical information presentation	Business school students	65 undergrads and post-grads students	Tabular report is finer than graphical report. Graphical information reduces decision making time. Colour coding influence profit performance.
Frownfelter-Lohrke & Fulkerson (2001)	Quality of graphics in annual reports	New York SE and American SE	74 US and non-US companies	Non-US annual reports contain significant graphical presentations. Potential misleading graphics exists.
Tan & Benbasat (1993)	Effectiveness of graphical presentation	University students	72 undergrads and post-grads students	A high level of accuracy performance across different tasks and graph types.
So & Smith (2003)	The impact of presentational format on decision making	University students	137 undergrads and post-grads students	Schematic faces and bar chart graphs produce superior performance.
Schirillo & Stone (2005)	The graphical vs numerical displays to increase risk avoidance	Students of Wake Frost University	157 students for experiment 1 and 492 students for experiment 2	Graphical presentations are more effective than numerical presentations.

Author (Year)	Event	Sample source	Sample selection	Summary of results
Desanctis & Jarvenpaa (1989)	Graphical presentation of accounting data	University students	48 second-year MBA students	Graphical and combined graphical/numerical reporting formats are more effective than a numerical format in forecasting financial statement information.
Amer (2005)	Bias in graphical presentation	Large public university's students	129 accounting students	An error in estimating the value displayed on a Cost-Volume-Profit line graph leads toward bias in the decision making
Steinbart (1989)	Graph disclosures in annual report	Fortune 500	319 listed companies, 1986	8 percent of annual report contains at least one distorted graph to portray a favourable impression than is warranted. Companies with declining net income exaggerating trends
Beattie & Jones (1992)	Graph disclosures in annual reports	London stock exchange	240 large UK listed companies, 1989	Graphs are distorted to portray a favourable performance

Author (Year)	Event	Sample source	Sample selection	Summary of results
Beattie & Jones (1997)	Graph disclosures in annual reports		85 US and 91 UK listed companies	24 percent graphs are distorted. Mean level of distortion is greater for the US than for the UK
Beattie & Jones (1999)	Graph manipulation in annual report of Australian companies		89 listed companies, 1991	Graphs are selected to enhance perceptions of managerial performance
Beattie & Jones (2000a)	Graph disclosures in annual report	Top 500 UK listed companies	137 listed companies (1988-1992)	Company exhibit reporting bias in the way in which graphs are used
Beattie & Jones (2000b)	Graphs in annual report	Extel Financial database	300 annual report from companies from 6 different companies	Australia, UK and US exercised graph selectivity. Netherland and US use distorted graphs
Mather, Ramsay & Steen (2000)	Graph in prospectuses	Corporate advisor	484 Australian IPOs	Changes in information content rules for IPO prospectus affects the inclusion of graphs
Beattie & Jones (2001)	Graphs in annual report	Extel Financial database	300 annual report	UK companies graphed EBT whilst US companies graphed EAT

Author (Year)	Event	Sample source	Sample selection	Summary of results
===============	=======	===============	==================	====================
Beattie & Jones (2002)	Manipulation of perceptions using graph		53 business studies student	Graph slope significantly affects the perception of the information graphed and the accuracy of comparative judgement
Mather, Ramsay & Steen (2000)	Graph in prospectuses	Corporate advisor	484 Australian IPOs	Changes in information content rules for IPO prospectus affects the inclusion of graphs
Anderson & Imperia (1992)	Photographs in annual report	Moody's industrial manual	119 annual reports from 25 companies	Gender role depictions in annual reports of 25 airline companies
Preston, Wright & Young (1996)	Selectivity of visual images in annual report		US companies	Annual report acts as public relation tools
Preston & Young (2000)	Images & text in annual report			
Davison (2000)	Communication in annual report			Creative design material in annual report as a frame for reception of information

Author (Year)	Event	Sample source	Sample selection	Summary of results
De-Groot, Korzilius, Nickerson & Gerritsen (2006)	Text & photographic themes in annual reports' managerial forwards.	Amsterdam stock exchange and London stock exchange	44 companies (22 Dutch, 22 British) in 15 different industries	On text themes, managerial statement differs generically. On visual themes, British CEO statement focus on company profile and performance
Bernardi, Bean & Weippert (2005)	Pictures of boards in annual report	Fortune 500	155 annual reports, 2002	Significant increase in the presence of ethnic minorities and females when pictures of board members are included
Bernardi, Bean & Weippert (2002)	Gender diversity in annual report pictures	Fortune 500	472 corporations	Firms in a higher percentage of women in board signals this fact by including pictures of boards in annual reports

16 February 2006

Director of Environmental Affairs
Peninsular and Oriental Steam Navigation Company
79 Pall Mall
London
SW1Y 5EJ

Dear Sir,

REQUEST FOR CORPORATE REPORTS

I am a PhD student at Cardiff University. I am contemplating conducting research into corporate reporting by the top 250 UK companies for the period 2000-2005. Specifically, my proposed research involves a comparison of corporate reporting between the 'stand-alone' environmental / sustainability / corporate social responsibility report and the annual report.

If your company produces a 'stand-alone' environmental / sustainability / corporate social responsibility report, I would be grateful if you could send me a hard-copy of those reports which you have published in the period 2000 to 2005, and the annual reports for the same years as those stand-alone reports.

If you have not produced 'stand-alone' environmental / sustainability / corporate social responsibility reports in this period, I would be most obliged if you could kindly let me know.

Please send the reports to:

> Mohammad Azhar Ibrahim
> PhD Researcher
> c/o Cardiff Business School
> Freepost CF4117
> Aberconway Building
> Colum Drive
> Cardiff CF1 1YZ

Should you need any further information before being able to respond to my request, please contact the PhD Programme Secretary, Ms Elsie Phillips on tel. 02920 876786.

Thank you.

Contact Person:

Lewis. Mcguinness

Phone: As above

Email: lewis.mcguinness@dpworld. com.

Yours sincerely,

(MOHAMMAD AZHAR IBRAHIM)

Postgraduate Research Studies Programme
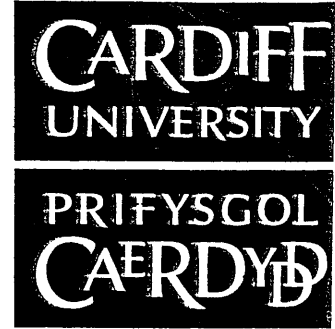*Rhaglen Astudiaethau Ymchwil Ôl-raddedig*

Director *Cyfarwyddwr* Professor *Yr Athro* Keith Whitfield MA DPhil
Deputy Director *Dirprwy Gyrarwyddwr* Dr Yusuf Karbhari BA(Hons) MBA PhD

16 June 2006

Director of Environmental Affairs
JJB Sports plc,
Martland Park
Challenge Way
Lancashire
WN5 0LD

Dear Sir,

REQUEST FOR CORPORATE REPORTS

I am a PhD student at Cardiff University. I am contemplating conducting research into corporate reporting by the top 350 UK companies for the period 2000-2005. Specifically, my proposed research involves a comparison of corporate reporting between the 'stand-alone' environmental / sustainability / corporate social responsibility report and the annual report.

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> Aberconway Building
> Colum Drive
> Cardiff CF1 1YZ

Enclosed by JJB sports plc

Should you need any further information before being able to respond to my request, please contact the PhD Programme Secretary, Ms Elsie Phillips on tel. 02920 876786.

Thank you.

Yours sincerely,

(MOHAMMAD-AZHAR IBRAHIM)

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APPENDIX F. Decision rules for collection of data on photographs

Perspective	Code	Description
Foreground/Background	1	Human(s) at the workplace
	2	Human(s) not at the workplace
	3	Workplace / vehicles / equipments / tools / parts
	4	Nature e.g. river, forest etc.
	5	Living creature other than human
	6	Others e.g. children playground etc
Portraiture	0	Not portrait
	1	A portraiture
Gender	0	Gender not applicable
	M	A male
	M1	More than one male
	F	A female
	F1	More than one female
	C	A child
	C1	A children
	MX	Humans of different genders in the same photograph
Attire	1	A working/functional attire, with or without tie
	2	Attire other than 1 or 2
	3	An attire for specific purposes e.g. father Christmas type of costume

Appendix G. Coding references for data collection on graphs

Perspective	Code	Description
Graph-type	C	Column
	P	Pie
	L	Line
	B	Bar
Special effects	1	A non-zero axis
	2	A broken axis
	3	No arithmetic scale available
	4	A non-scale axis
	5	A negative values omitted/truncated
	6	Multiple scales labelled together
	7	A 3-dimensional graph
	8	A colour schemes been employed
	9	Others e.g. placing an image at the top of each column
Years compared		Number of years of comparison including base year
Performance compared	F	Favourable
	UnF	Un-Favourable
Themes	1	Materials
	2	Energy
	3	Water
	4	Biodiversity
	5	Emissions, Effluents, and Waste
	6	Products and Services
	7	Compliance
	8	Transport
	9	Overall / Summary

Appendix H. Coding references for data collection on tables

Perspective	Code	Description
Years compared		Number of years of comparison including base year
Total Item		Total environmental-related items
Performance compared	F	Favourable
	UnF	Un-Favourable
Themes	1	Materials
	2	Energy
	3	Water
	4	Biodiversity
	5	Emissions, Effluents, and Waste
	6	Products and Services
	7	Compliance
	8	Transport
	9	Overall / Summary

APPENDIX I. A summary of theories, hypotheses and findings

Theory	Hypothesis	Finding
Signalling	H_{1a} – The number of annual report pages increases over time	Supported
Signalling	H_{1b} – The number of stand-alone report pages increases over time	Supported
-	H_{1c} – Overall, the number of pages is more in annual reports than in stand-alone reports	Supported
Signalling	H_{2a} – The number of photographs in annual reports increases over time	Not supported
Signalling	H_{2b} – The number of photographs in stand-alone reports increases over time	Not supported
Signalling	H_3 – Overall, there are more photographs in stand-alone reports than in annual reports	Not supported
Signalling	H_4 – Overall, the size of photographs is larger in stand-alone reports than in annual reports	Not supported
Signalling	H_5 – Overall, there are more portrait photographs in annual reports than in stand-alone reports	Supported
Signalling	H_{6a} – There are more photographs of men than women in annual reports	Supported
Signalling	H_{6b} – There are more photographs of men than women in stand-alone reports	Supported
-	H_{7a} – There is no difference in the number of graphs in annual reports over time	Supported
-	H_{7b} – There is no difference in the number of graphs in stand-alone reports over time	Supported

-	H_{7c} –	Overall, there is no difference in the number of graphs between annual reports and stand-alone reports.	Not supported
-	H_{8a} –	The number of tables in annual reports increases over time.	Supported
-	H_{8b} –	The number of tables in stand-alone reports increases over time.	Supported
-	H_{8c} –	Overall, there are more tables in annual reports than in stand-alone reports.	Supported
Signalling	H_{9a} –	The larger companies rather than the smaller companies presented more pages of annual reports.	Supported
Signalling	H_{9b} –	The larger companies rather than the smaller companies presented more pages of stand-alone reports.	Supported
Signalling	H_{10a} –	The larger companies rather than the smaller companies presented more photographs in annual reports.	Not supported
Signalling	H_{10b} –	The larger companies rather than the smaller companies presented more photographs in stand-alone reports.	Supported
Signalling	H_{11a} –	The larger companies rather than the smaller companies presented more graphs in annual reports.	Not supported
Signalling	H_{11b} –	The larger companies rather than the smaller companies presented more graphs in stand-alone reports.	Supported
Signalling	H_{12a} –	The larger companies rather than the smaller companies presented more tables in annual reports.	Supported
Signalling	H_{12b} –	The larger companies rather than the smaller companies presented more tables in stand-alone reports.	Supported

Signalling	H_{13a} – The improved performance companies rather than the non-improved performance companies presented more pages of annual reports.	Not supported
Signalling	H_{13b} – The improved performance companies rather than the non-improved performance companies presented more pages of stand-alone reports.	Not supported
Signalling	H_{14a} – The improved performance companies rather than the non-improved performance companies presented more photographs in annual reports.	Not supported
Signalling	H_{14b} – The improved performance companies rather than the non-improved performance companies presented more photographs in stand-alone reports.	Not supported
Signalling	H_{15a} – The improved performance companies rather than the non-improved performance companies presented more graphs in annual reports.	Not supported
Signalling	H_{15b} – The improved performance companies rather than the non-improved performance companies presented more graphs in stand-alone reports.	Not supported
Signalling	H_{16a} – The improved performance companies rather than the non-improved performance companies presented more tables in annual reports.	Not supported
Signalling	H_{16b} – The improved performance companies rather than the non-improved performance companies presented more tables in stand-alone reports.	Not supported
Signalling	H_{17a} – The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more pages of annual reports.	Supported, in opposite direction*
Signalling	H_{17b} – The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more pages of stand-alone reports.	Not supported
Signalling	H_{18a} – The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more photographs in annual reports.	Not supported

Signalling	H_{18b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more photographs in stand-alone reports.*	Not supported
Signalling	H_{19a} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more graphs in annual reports.*	Not supported
Signalling	H_{19b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more graphs in stand-alone reports.*	Supported
Signalling	H_{20a} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more tables in annual reports.*	Supported, in opposite direction **
Signalling	H_{20b} – *The environmentally sensitive companies rather than the environmentally non-sensitive companies presented more tables in stand-alone reports.*	Not supported
Signalling	H_{21a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more pages of annual reports.*	Not supported
Signalling	H_{21b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more pages of stand-alone reports.*	Not supported
Signalling	H_{22a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more photographs in annual reports.*	Not supported
Signalling	H_{22b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more photographs in stand-alone reports.*	Not supported
Signalling	H_{23a} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more graphs in annual reports.*	Not supported
Signalling	H_{23b} – *The non-FTSE4Good companies rather than the FTSE4Good companies presented more graphs in stand-alone reports.*	Supported

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Signalling	H_{24a} – The non-FTSE4Good companies rather than the FTSE4Good companies presented more tables in annual reports.	Supported, in opposite direction **
Signalling	H_{24b} – The non-FTSE4Good companies rather than the FTSE4Good companies presented more tables in stand-alone reports.	Not supported
Impression Management	H_{25} – There are more texts with good news rather than bad news presented in stand-alone reports.	Supported
Impression Management	H_{26} – There are more graphs with good performance rather than bad performance presented in stand-alone reports.	Supported
Impression Management	H_{27} – There are more tables with good performance rather than bad performance presented in stand-alone reports.	Supported
Impression Management	H_{28a} – Overall, there are more photographs of humans at a workplace rather than photographs of humans not at a workplace presented in annual reports.	Supported
Impression Management	H_{28b} – Overall, there are more photographs of humans at a workplace rather than photographs of humans not at a workplace presented in stand-alone reports.	Supported
Impression Management	H_{29} – There are distorted graphs presented in stand-alone reports.	Supported
Impression Management	H_{30} – There are graphs with special effects presented in stand-alone reports.	Supported

* See page 208 of the thesis for details
** See page 220 of the thesis for details