Readability and Thematic Manipulation in Corporate Communications:
A Multi-Disclosure Investigation

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Abstract

This study investigates the prevalence of two significant impression management strategies, thematic manipulation and reading ease manipulation, across a range of distinct corporate narrative communications and explores the determinants of such practices. Prior studies have tended to examine impression management strategies independently. Further, studies typically only consider a single disclosure type. This suggests that research has overlooked the fact that managers are likely to consider a range of alternative disclosures and impression management approaches in developing their disclosure strategies. By considering a range of both disclosure types and impression management strategies, this study attempts to uncover important interrelationships between these factors, thereby enriching our understanding of corporate disclosure strategies. A sample of 824 disclosures made by listed companies in Australia and New Zealand is examined. The disclosures include key narratives typically contained in annual reports including the chairman's letter, management's discussion and analysis, the notes to the accounts, and any embedded Corporate Social Responsibility (CSR) report. Additionally, narratives contained in separately issued CSR reports were studied. The study finds weak evidence of readability manipulation obfuscating the disclosures of poorer performing companies. However, the themes within the disclosures of poorer performing companies tended to closely mirror those of more well performing companies – an observation consistent with the Pollyanna principle. The study also finds that disclosures with a positive tone are more readable than those with a negative tone, a result consistent with the obfuscation hypothesis. CSR reports are found to be more readable than annual reports in general and have significantly different thematic characteristics. Interestingly, CSR disclosures in annual reports differed considerably in terms of their readability from their counterparts in dedicated CSR reports.

1. Introduction

The unobservable nature of the vast proportion of organisational activity has led external stakeholders to rely on the mandatory and voluntary disclosures as "imperfect proxies" for these activities (Neu, Warsame & Pedwell, 1998, p.268). Annual reports and standalone disclosures, such as separate corporate social responsibility (CSR) reports, are typical of these disclosures and ordinarily consist of both narrative (textual) and numerical information. Narrative information may explain how accounting numbers have been determined (for example, through accounting policy disclosures and other notes to the financial statements) and provide contextual information to aid in the understanding of financial information (Li (2010a). Additionally, narrative information can represent a significantly different and complementary source of information relative to numerical information (Smith & Taffler, 1995). Chairman's letters or CSR reports, for example, may reveal important non-quantifiable information on the firm's current or future activities. Perhaps not surprisingly, then, narrative information has been associated with future financial performance (Li, 2010b), bankruptcy (Smith & Taffler, 1995, 2000), and market returns (Li, 2010b; Henry, 2008; Lang & Lundholm, 2000).

While narratives disclosures are important sources of information for users, many common forms of narrative, such as the chairman's letter, offer considerable latitude to management in shaping the content of communications. Abrahamson and Park (1994, p. 1307) argue that the textual elements of an annual report are generally less constrained than financial information as the application of relevant financial reporting legal requirements to the textual portions is ambiguous. In the US, for instance, whether management ought to be held legally accountable for qualitative disclosures is a "hotly debated topic" (Rogers, Van Buskirk & Zechman, 2011, p. 2156). This debate revolves around the issue "… of whether a qualitative statement can ever be considered material, or whether, by its very nature, such language is puffery… and thus fails to constitute a material statement of fact." (Rogers et al., 2011, p. 2156). Predictably then, evidence of the use of corporate narratives for the purposes of impression management has been found in a number of prior studies (for reviews of this literature, see Li, 2010b; Cole & Jones, 2005; and Jones & Shoemaker, 1994).

However, prior studies have generally focused exclusively on only one disclosure type (such as the chairman's letter or management discussion and analysis, etc.) overlooking the fact that managers are likely to consider a range of alternative disclosures and outlets in developing their disclosure strategies (Davis & Tama-Sweet, 2012). Consequently, focusing on only one type of disclosure may lead to important interrelationships between disclosure types being overlooked, potentially limiting our understanding of management's overall disclosure

strategies and impression management more generally. A second issue with the prior literature relates to the limited range of impression management strategies examined within the context of each study. In particular, prior studies tend to focus on just one strategy, such as readability manipulation to obfuscate bad news. Similar to the first issue, a richer understanding of impression management is likely to result from contemporaneous consideration of multiple impression management strategies. Management's disclosure strategies are unlikely to incorporate only one impression management strategy to the exclusion of others.

In light of the preceding discussion, the purpose of this study is to simultaneously investigate the prevalence of two key impression management strategies, reading ease manipulation and thematic manipulation, across a range of distinct corporate communications and explore the determinants of such practices. Reading ease manipulation can be a proxy for obfuscation (Courtis, 1998; Merkl-Davies & Brennan, 2007) whereby preparers manipulate the complexity of written material, confusing readers and reducing the transparency of communications. Thematic manipulation generally involves altering the tone of narratives in an attempt to attempt to conceal bad news by, for example, either not disclosing it in narratives or by emphasising positive news. While previous studies have examined thematic and reading ease manipulation, these have generally been studied in isolation. Our study is the first to test the prevalence of these impression management strategies simultaneously and across a range of corporate communications. We examine multiple disclosures contained in annual reports (chairman's letter, management discussion and analysis, notes to the accounts, and embedded CSR reports) and two components of CSR reports issued separately from the annual report (opening letter in the CSR and the main body of the standalone CSR).

The scope for opportunistic management disclosures in narrative information varies considerably depending on the nature of the specific disclosure. For instance, in most jurisdictions, chairman's (president's) letters are generally not constrained by stock exchange listing requirements or reporting regulations. This is in stark contrast to requirements and regulations covering the notes to the financial statements and, to a lesser extent, the management discussion and analysis (Abrahamson & Amir, 1996). The fact that notes to the financial statements are audited places further limits on management's discretion over the content of such disclosures. While it is acknowledged that all documents accompanying audited financial statements are required to be reviewed by the auditor for 'material inconsistencies' with the financial statements (see for example ISA 720), there are questions surrounding the efficacy of this process due to the degree of subjectivity involved in the assessment (Clatworthy & Jones, 2006, p.495). There is no legislative or professional

requirement for either of the two forms of CSR report examined in this study (i.e., CSR reports within annual reports and standalone CSR reports). Consequently, considerable scope for impression management exists within these communications. We expect to find significant differences in impression management strategies across these difference disclosure types.

This study is the first to test the prevalence of impression management strategies simultaneously and across a range of corporate communications. Investigating how inherent differences in disclosures, such as their levels of regulation and voluntary vs. mandatory nature, affect the levels of impression management is a key focus. Part of the motivation for investigating CSR disclosures in general was to expand thematic manipulation research into this area. In particular, no previous study has looked at the thematic manipulation of standalone CSR communications relative to the other disclosures contained in annual reports. Incorporating both thematic and reading ease manipulation into the research also provides new insights and adds to our understanding of obfuscation strategies. For example, the study examines the relationships between readability and the use of positive and negative themes. Last, in considering thematic manipulation the research considers a wider range of themes than found in the prior literature. The inclusion of DICTION variables, Activity; Optimism; Certainty; Realism and Commonality provide a rich view of thematic use and its manipulation of corporate narratives. Overall, the study identifies significant differences in disclosures types and relationships within specific industries as well as evidence of obfuscation and thematic manipulation in the form of narrative mirroring.

The paper is laid out as follows. The next section provides a background and review of the relevant literature. This is followed the specification of the study's hypotheses. Section 4 discusses the research methods, while Sections 5 and 6 provide the study's results and a discussion and conclusion, respectively.

2.   Background

To provide information to stakeholders, corporations issue either regulated or unregulated (i.e. voluntary) disclosures. Regulated disclosures include annual reports, which typically include, *inter alia*, financial statements, notes to the financial statements, and management discussion and analysis. The degree to which the content of regulated disclosures is prescribed varies depending on disclosure type. In recent times, corporations have also embraced the use of voluntarily disclosures, such as management forecasts, analysts' presentations, press releases, web pages and CSR reports (Healy & Palepu, 2001). Due to their voluntary nature, the format, content and quality of these documents are largely at the discretion of the corporation. This

allows reporting entities to decide on what and how to report. Typically, these voluntary disclosures are found on company websites, in separate reports or integrated as part of annual reports (Van der Laan, 2009).

Regardless of whether or not they are regulated, corporate disclosures serve two important purposes: "reducing agency costs, and reducing information asymmetries between those inside and outside of the firm" (Guttentag, 2007, p. 613). The degree to which these objectives may be attained directly impacts on the extent to which an economy may achieve an optimal allocation of investment resources (Healy & Palepu, 2001). Li (2008) highlights two key weaknesses in our current reporting framework that threatens this goal and about which the SEC has concerns. Firstly, reporting entities could use vague language and format in communications to hide adverse information (i.e., an agency problem) and secondly, the average investor or user may not be able to readily understand these complex documents, which could result in capital market inefficiencies (i.e., an information problem). Agency problems exist due to information asymmetry and the conflicting incentives between managers of a company and the ultimate owners/investors of the company.
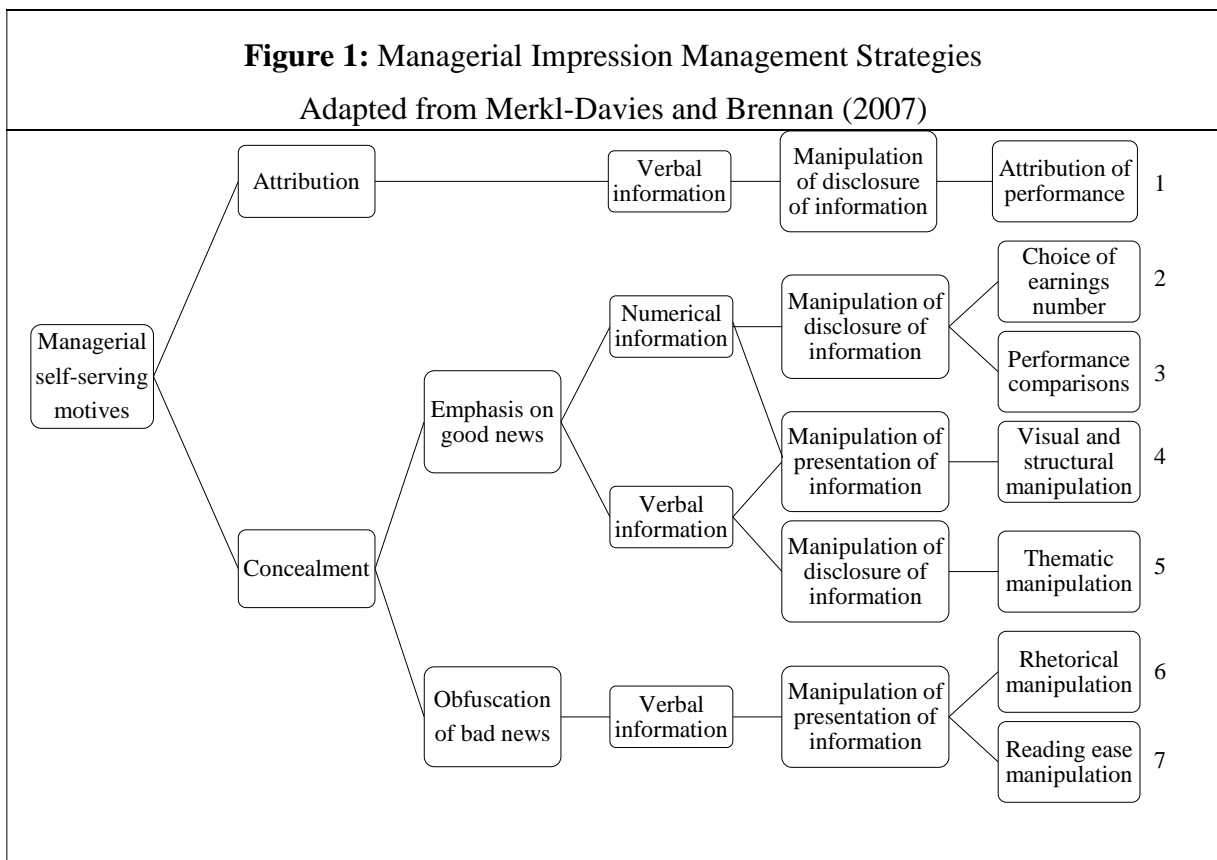
Despite the vital role disclosures play in our economy, it is clear that the actual quality and content of currently produced disclosures fail to meet the standard required to ensure successful market operation. Recent corporate scandals such as ENRON and the failure of financial institutions during the global financial crisis highlight the issues present in corporate disclosures.

2.1 Impression Management

In business, it is expected that managers conduct their decision-making processes based on the best interests of the company's ultimate owners, the shareholders. However, due to information asymmetry, management can take actions to maximise their own utility by virtue of being better informed about the company's true performance. Asymmetries in information result in adverse selection and moral hazard problems on the part of management (Beaver, 1998). Impression management is one manifestation of this agency issue (García Osma & Guillamón-Saorín, 2011). Hooghimstra (2000, p. 60) defines impression management as "…a field of study within social psychology…concerned with studying how individuals present themselves to others in order to be perceived favourably by others." In the context of corporate communications, impression management may be undertaken to mislead investors and other users about financial performance and prospects and may "…manifest itself in reporting bias, i.e., the emphasis of

positive organisational outcomes and the obfuscation of negative organisational outcomes in corporate narrative documents." (Merkl-Davies, Brennan, & McLeay, 2011, p. 316). Further, it may be undertaken to manage perceptions and/or influence share prices, thereby increasing mangers' compensation (via share options and bonuses) and ultimately leading to misallocation of market resources (Merkl-Davies & Brennan, 2007).

Merkl-Davies and Brennan (2007) identify two chief impression management behaviours used in narrative documents, namely attribution and concealment. Figure 1 demonstrates the linkage between these two behaviours and seven specific impression management strategies.

Figure 1: Managerial Impression Management Strategies
Adapted from Merkl-Davies and Brennan (2007)

Managerial self-serving motives					
Attribution	Verbal information	Manipulation of disclosure of information	Attribution of performance	1
Concealment — Emphasis on good news	Numerical information	Manipulation of disclosure of information	Choice of earnings number	2
			Performance comparisons	3
	Verbal information	Manipulation of presentation of information	Visual and structural manipulation	4
		Manipulation of disclosure of information	Thematic manipulation	5
Concealment — Obfuscation of bad news	Verbal information	Manipulation of presentation of information	Rhetorical manipulation	6
			Reading ease manipulation	7

In this study, we focus on strategies 5 and 7. That is, the manipulation or bias of themes within narratives (strategy 5) and the manipulation of reading difficulty (strategy 7). Historically, strategies 5 and 7 have been investigated through analysis of positive and negative keyword occurrences, and analysis of syntactical features of narratives, respectively.

2.2 Readability and Readability Formulae

The literature differentiates between the understandability of narrative disclosures and their readability. The concept of understandability is reader–orientated, focusing on their capability

to discern the appropriate meaning, whereas readability is associated with the complexity of the display (Smith & Taffler, 1992). Both elements, however, are necessary for effective communication. In this study, we focus on the latter element of the reading experience, that is, readability.

Many factors have been considered as determinants of readability. Chavkin (1997) noted that the two most common and robust elements are vocabulary difficulty and sentence length. Consequently, most "…readability formulae determine the readability level of a passage by examining word difficulty and sentence length" (Stevens, Stevens, & Stevens, 1992, p. 1). By measuring factors such as sentence length, use of long words and the incidence of 'hard' words, a readability score can be produced and be subject to quantitative analysis. Syntactical research has provided many readability formulae that claim to assess the readability of written material. Only a subset of these, however, have been widely accepted. These include the Flesch formula (Flesch, 1948)[1], the Dale-Chall formula (Dale & Chall, 1948), and the Fog formula (Gunning, 1952). One advantage of readability formulae relative to comprehension techniques, such as the Cloze understandability measure (see Stevens et al., 1992), is that no reader participation and relatively few assumptions are required for valid conclusions to be drawn. This lessens threats posed by incorrect sampling techniques, qualitative interpretation and testing, while making replication of experiments and large-scale investigations relatively more straightforward (Subramanian, Insley & Blackwell, 1993).

2.3 Readability of Corporate Disclosures

One of the first papers to investigate the readability of corporate disclosures analysed the readability annual reports utilising the Flesch formula. Pashalian and Crissy (1950) revealed that the general reading level was beyond the comprehension of 75% of US adults. Twenty years later, Worthington (1978) applied the Dale-Chall readability formula to financial disclosures made by a sample of Fortune's 1974 list of the second largest 500 industrial corporations. He found readability ranged from difficult to very difficult. Similarly, Adelberg (1979) found poor readability to be present in the footnotes and management's review sections of the annual reports of a sample of 16 United States (US) firms. Furthermore, he found

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[1] The Flesch formula (sometimes referred to as the Flesch Reading Ease formula) assesses the number of words, syllables and sentences in a passage. The formula results in scores between 0 and 100 with lower scores indicating less readable text. Flesch scores may be converted to US grade levels as follows: 100 – 90 = 5th Grade, 90 – 80 = 6th Grade, 80 – 70 = 7th Grade, 70 – 60 = 8th – 9th Grade, 60 – 50 = 10th – 12th Grade, 50 - 30 = Under Grad (University), and 30 - 0 = Post Grad (University).

profitability inversely related to the reading difficulty of the auditor's reports and footnotes. Based on an analysis of the readability of the management discussion and analysis sections taken from a sample of 1986 Fortune 500 and Fortune Service 500 companies, Schroeder and Gibson (1990) confirm the findings of prior research. They conclude that "[m]anagers responsible for communicating financial information in narrative form must remember that the narrative should 'express' rather than 'impress'" (p. 87).

Thirty-six years after Pashalian and Crissy's pioneering research, Courtis (1986) investigated the reading ease of 142 Canadian annual reports using both the Flesch and Fog formulae. His results suggested that readability of these reports ranged from difficult to very difficult. In particular, he suggested that financial footnotes, being the poorest scoring section, were beyond the comprehension of 92% of the Canadian population based on census statistics. However, his results showed no significant relationship between poor readability and poor firm performance or high corporate risk. In a longitudinal study, Jones (1988) investigated the chairman's reports of a single company over the period 1952-1985 using the Flesch formula. He found that readability declined with increasing firm size and complexity and suggested that further research be undertaken using larger samples to confirm his results.

Smith and Taffler's (1992) study extended prior research by examining the link between the readability of chairman's reports and firm's corporate survival. Using a sample of 66 UK companies, they found a significant difference in the readability of failed firms' reports and the reports of firms that did not fail. They conclude "…that firms are actively signalling positive performance while attempting to obscure messages which convey poor performance, actions consistent with the suggestions of both agency and signalling theories" (Smith & Taffler, 1992, p. 86). Subramanian et al. (1993) investigated the readability of US companies. They found the readability of well performing companies (profit increases over previous year) were more readable than those who performed badly (profit decreased over previous year).

Courtis (1995) investigated 32 Hong Kong public companies between 1986 and 1991. Testing chairman's addresses and footnote passages from the annual reports with the Flesch, Fog and Lix readability formulae, he found that the readability of the disclosures was beyond the fluent comprehension levels of 90% of the adult population. Further, the readability declined over the five-year period while company size, industry and profitability were not associated with readability levels. More recently, Clatworthy and Jones (2001) investigated 120 chairman's reports with a focus on the relationship between Flesch scores and firm performance. They find that while financial performance was unrelated to readability, performance was systematically related to the thematic structure of the report suggesting the presence of

impression management. Li (2008) examines annual report readability and its relationship with firm performance and earnings persistence. Utilising a sample of companies' 10-K filings from 1994-2004 (being 55,719 firm years) he found that the annual reports of firms with lower earnings were harder to read. In addition, Li (2008) found evidence that managers were opportunistically changing the readability of annual reports to hide adverse information from investors.

In an attempt to assess progress towards improved readability, Dempsey et al. (2010) investigated real estate investment trusts for on-going trends. They showed how the readability of 183 annual reports extensively deteriorated over the duration of their study, finding that the average readability had decreased from a required grade level of 12 (high school senior) in 2002 to 17 (university postgraduate student) in 2007. Also looking at longitudinal changes in readability, Richards and Van Staden (2014) investigated the NZX50 constituent companies' financial footnotes to assess the impact of the adoption of New Zealand International Financial Reporting Standards (NZIFRSs) on readability. They found that adoption of NZIFRSs resulted in a deterioration in the readability of disclosures. Readability post NZIFRS was generally very poor with scores suggesting that 93% of the New Zealand population would not be able to effectively read and comprehend them.

While many papers have investigated the readability of annual reports, shareholder letters and the like, little attention has been given to CSR reports - an area that has seen considerable corporate uptake in recent years. Abu Bakar and Ameer (2011) is the only readability investigation to date to examine the readability of CSR communication. Using a sample of Malaysian listed companies, they found readability to vary from very difficult to fairly difficult. Furthermore, they found a direct relationship between the readability of the CSR communication and companies' financial performance. Later testing implied that the management of poorly performing companies deliberately choose difficult language in CSR communication consistent with the obfuscation hypothesis.

2.4 Thematic Analysis and Manipulation

Whereas readability analysis is concerned with the syntactic structure of texts, thematic analysis focuses on the information content of texts, and more specifically themes within texts. Research using thematic analysis techniques is commonplace in the linguistics and psychology disciplines. However, some accounting and business researchers have focused on its application to impression management. Most studies within the business literature have limited

the scope of thematic analysis, typically evaluating just the incidence of positive and negative themes within narratives. Such studies suggest that management attempt to conceal bad news by either simply not disclosing it in narratives or by obscuring it in positive news.

Hildebrandt and Snyder (1981) represent one of the first papers to consider thematic manipulation in accounting. Their study extended research from communication studies to inquire whether 'the Pollyanna principle'[2] applied to corporate annual report letters. Their results revealed that it did indeed apply, with positive words occurring more frequently than negative words irrespective of the company's financial position. Since the early work of Hildebrandt and Snyder (1981), many papers have adopted their method of analysis. Rutherford (2005) investigated the occurrence of 90 keywords within 44 UK operating and financial review narratives, showing that the language in these narratives was biased towards a positive theme, as expected by the Pollyanna principle. Similarly, Guillamon-Saorin (2006) found evidence of a positive bias in 172 UK and Spanish press release narratives even after controlling for performance. Abrahamson and Park (1994) and Abrahamson and Amir (1996) attempt to provide further evidence of the Pollyanna principle by focusing on the incidence of negative keywords/themes. Both papers, however, find that high use of negativity was associated with poor performance both in the year of the report and as a predictor of future performance.

In addition to showing the existence of the Pollyanna principle in business narratives, the literature has shown that the thematic content of corporate communications has some powerful relationships with specific events or firm characteristics. Abrahamson and Park (1994) were able to establish that companies with a high proportion of external directors, directors with accounting backgrounds and even companies with a large proportion of large institutional investors adopted greater use of "word[s] that might denote negative organizational outcome[s]" (Abrahamson & Park, 1994, p. 1314); that is to say, these elements appeared to restrain the concealment of negative outcomes. However, they noted that small institutional investors and external directors with relatively large shareholdings resulted in greater concealment of negative outcomes. Smith and Taffler (2000) looked for a relationship between thematic manipulation in chairman's reports and corporate failure. Utilising both word and theme based counts such as the presence of the words 'overdraft', 'loans', as well as phrases such as 'bank support', 'no dividend', 'chairman resigns', etc., they were able to construct two prediction models, both capable of more than 90% correct classification of failure.

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[2] The Pollyanna principle contends that there is a tendency for humans, irrespective of culture, to, as Boucher and Osgood (1969, p.1) put it, "use evaluatively positive ... words more frequently, diversely and facilely than evaluatively negative ... words."

Other studies have shown that management is actively engaging in thematic manipulation for personal benefit. Abrahamson and Park (1994), as part of their analysis, looked at patterns in directors' subsequent share sales after engaging in thematic manipulation. They showed that low disclosure of negative outcomes was associated with subsequent selling of shares by top officers and outside directors, suggesting that the observed reductions in negativity were deliberate. This finding supported the earlier work of Staw, McKechnie, and Puffer (1983) who discovered self-serving attributions in organizational communications.

If managers are actively engaging in thematic manipulation then the natural question is whether this is actually effective in influencing investors. Unfortunately, the literature is inconclusive in this regard. Francis, Philbrick, and Schipper (1994) found that announcement-day market returns were not associated with the tone of press coverage in the year prior to an adverse earnings announcement. In contrast, Lang and Lundholm (2000), using a matched pair sample of 82 companies, found a positive correlation between market returns and the frequency of optimistic statements made by companies in the 18 months prior to announcing a seasoned common stock offering (regarded as an adverse announcement as it would dilute current stock). Likewise Henry (2008), using 441 US press releases, showed that tone influences investors' reactions. Where tone is:

> "…a function of both content and word choice. A more positive tone can be achieved by focusing on positive outcomes and/or by describing outcomes in a positive way." (Henry, 2008, p.377)

2.5 Advancing Thematic Research: DICTION

Acknowledging the relatively limited scope of thematic manipulation impression management studies in the accounting domain, Sydserff and Weetman (2002) suggest the application of DICTION analysis.

> "As a form-oriented approach[3], DICTION offers considerable potential for the accounting researcher. It is simple to use, it is automated, and yet it embraces a considerable degree of sophistication. The dictionaries have been constructed by experts in linguistics. With a total word corpus in excess of 10,000, DICTION is considerably more comprehensive than existing form-oriented approaches in the accounting literature" (Sydserff & Weetman, 2002, p. 533).

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[3] Form-oriented analysis typically relies on some form of objective, computerised analysis of narratives based on a compendium or taxonomy of keywords (Sydserff & Weetman, 2002).

DICTION is a computer-aided text analysis program which determines the verbal tone of a textual communication by searching passages of text for five semantic features (also known as master variables in DICTION), namely Activity, Optimism, Certainty, Realism and Commonality (Hart & Carroll, 2011). These five composite variables are determined using thirty-one individual dictionary (word list) counts and four calculated variables; the scores of which are standardised, selectively combined using addition and subtraction (Digitext Inc., 2011). The software then provides the raw counts and offers a standardising feature that identifies outliers in the results based on several sets of previous research.

Ober, Zhao, Davis, and Alexander's (1999) study of the use of 'certainty' in corporate discourse was one of the earliest accounting studies to utilise DICTION analysis. They found that the use of certainty in communications of 72 Fortune 500 companies was not influenced by either profitability or industry. However, a significant difference appeared to exist between oral and written communications. Oral communications were found to have higher certainty scores, which the authors suggest may reflect the greater propensity for US business managers relative to those in other countries, such as China and Japan, to use overstatement in oral communications to demonstrate their confidence and assertiveness. Yuthas, Rogers, and Dillard (2002), also use DICTION, and found that companies expecting earnings surprises (either good or bad) exhibited higher levels of communicative action. Their findings suggest that companies anticipating large earnings surprises used the narrative sections of annual reports to communicate information about managements' veracity and trustworthiness as well as the company's financial position.

Lastly, Sydserff and Weetman (2002) illustrate how DICTION may best be utilised in future impression management research in accounting. Using both chairman's statements and manager's reports of 26 investment trusts, they tested for differences in all of DICTION's master variables between 'good performers' and 'poor performers'. Significant differences were found in the optimism scores of chairman's statements and the activity score of manager's reports. However, they comment that the lack of any significant difference in most of the master variables could indicate that the managers of poor performers were using impression management to make their narratives resemble the verbal tone and themes of the good performers, especially in the case of the variables certainty, optimism and activity (Sydserff & Weetman, 2002, p. 539).

3. Hypotheses

From agency and signalling theory perspectives, a relationship might be expected to exist between profitability and both readability and thematic content. As Smith and Taffler (2000, p.628) note "[i]t might be expected that 'good' financial performance will be associated with a clear financial message through a positive executive narrative and that 'poor' financial performance will be associated with a narrative message which obscures the communication from the accounting statements with misleading over optimism" The obscuring of poor performance may also be achieved through a strategic reduction in the readability of the narrative. Should no relationship be found between thematic content and performance, impression management may, however, still be present. Sydserff and Weetman (2002, p. 539) suggest that managers of poorly performing companies may use impression management to make their narratives resemble the verbal tone and themes of the good performers. Consistent with agency theory, the first hypothesis (stated in alternative form) is as follows:

H1a: The readability of a company's disclosures is significantly positively related to the company's profitability

H1b: The thematic content of company's disclosures is significantly related to the company's profitability.

In addition, we also test a hypothesis that considers both thematic and readability elements. This hypothesis focuses on whether the number of positive or negative keywords in a disclosure is related to the readability of a disclosure. If manipulation is present, then disclosures that have poor readability might be expected to be more negative in nature, meanwhile disclosure that are more readable would be more positive in nature.

H1c: Disclosures with higher readability are significantly more positive than disclosures with poor readability.

As noted in the Introduction, certain corporate disclosures are subject to greater requirements and regulation than other disclosures. Hypotheses 2a and 2b tests whether the degree of regulation limits readability manipulation. As regulations and the financial audit processes are designed to limit the opportunistic behaviour of management, disclosures that are subject to them (such as financial notes or the management discussion and analysis sections of annual reports) should exhibit less manipulation. However, the concomitant greater use of technical language (often boilerplate in the case of notes to the accounts) is likely to lead to lower levels of readability compared to the unregulated annual report chairman's letters or CSR disclosures.

H2: More highly regulated disclosures are significantly less readable than less regulated disclosures.

The next hypotheses examine whether there is any difference in the thematic content or readability of CSR reports and annual reports. It is expected that these documents would have different readability levels and thematic content as they serve different purposes and are made for different audiences. For example, it is expected that CSR-based disclosures would be more readable than other types as they are written for a more general audience compared to financial report notes that are typically made for highly educated investors or analysts.

H3a: The readability of CSR reports is significantly different to that of annual reports.

H3b: The thematic content of CSR reports is significantly different to that of annual reports.

The final hypothesis considers differences in the readability and thematic content of annual reports issued in Australia relative to those issued in New Zealand. While the two countries have capital markets with similar institutional features, such a common language and shared legal and financial traditions (reinforced by Closer Economic Relations), there have also been critical differences relevant to corporate reporting over the time period covered by the study's sample. New Zealand's market regulator over the period relevant to our study was the Securities Commission (SC). In the wake of a large number of finance company collapses and ensuing investor losses, it was superseded by the Financial Markets Authority (FMA) in 2011. Australia's regulator was and continues to be the Australian Securities and Investments Commission (ASIC). A report on New Zealand's SC's effectiveness noted a number of differences between the SC and ASIC (Prader & Walter, 2009). Principal among these was the level of resourcing of each body. The report noted that the operating budget of the SC in 2009 was $9m ($NZ) and staffing numbers amounted to 40. In stark contrast, during the same period ASIC budget was $342m ($NZ) and staffing 1,660. Such resourcing allowed AISC to maintain an active and extensive surveillance programme over the period relevant to this study. For instance, in 2003 it reviewed all 1,225 listed companies (Brown & Tarca, 2007). According to Prader and Walter (2009), the SC was also hamstrung by weak current legislation, the Commission's narrow mandate and lack of powers. Accordingly, in this study we expect such differences between the compliance regimes operating in the two jurisdictions to have led to differences in report readability and thematic structure.

H4a: The readability of disclosures from Australia is significantly different to that of New Zealand

H4b: The thematic structure of disclosures from Australia is significantly different to that of New Zealand

4. Method

4.1 Sample

We use Australian and New Zealand companies in our research. Australasian companies have received limited attention in impression management research to date, with most studies focusing on samples drawn from either the United States or the United Kingdom. Our samples were taken from companies listed on each country's principal stock exchange. For Australia, the sample is based on the ASX 100, while for New Zealand companies, the sample is drawn from NZX 50 constituent companies. In order to maximise the sample pool of disclosures, the study primarily investigates disclosures issued for 2008 and 2009 financial reporting periods. However, recognising that standalone CSR reports are often not released annually, data will be obtained from each company's latest two reports (if any exist at all). These sample parameters result in an initial sample size of 150 companies, 300 annual reports and an estimated 60 CSR reports.

We utilise disclosures extracted from two forms of corporate communications, namely standalone CSR reports and annual reports that were collected from the Morningstar Document Research database. Standalone CSR reports are separated into two sub-sections: the opening letters and the main disclosure sections. Annual reports are separated into four sub-sections: the chairman's letter, any dedicated CSR sections, management discussion and analysis sections and finally the financial statement notes.

4.2 Disclosure preparation and testing

Individual pdf reports were manually reviewed with the page ranges of each relevant disclosure section recorded. Pdf conversion software was then used to convert the page ranges into individual text files. These newly created text files next required 'cleaning', which first necessitated importing these documents into a word processing application. Once imported, the documents were manually scanned for errors arising from the conversion process. Once all errors and anomalies had been determined, a series of macros were used to repair all occurrences of the particular errors. As a final cleaning step, the text documents were run through Micro Power and Light's Readability Prep programme, to ensure that the final text

files would yield accurate and reliable readability scores when subsequently processed through the Readability Calculations application.[4]

4.3 Measures

4.3.1 Readability measures

Syntactical research has yielded many readability formulae such as the Flesch (Flesch, 1948), Flesch-Kincaid (Kincaid, Fishburne, Rogers & Chissom, 1975), Fog (Gunning, 1952), and Smog (McLaughlin, 1969) formulae. Although widely used in the literature some have questioned whether the formulae measure what they are intended to measure (Mailloux, Johnson, Fisher, & Pettibone, 1995; Leong, Ewing, & Pitt, 2002). Central to these criticisms is the notion that readability formulae ignore other variables necessary for effective communication of textual matter, such as reader motivation, the layout of text, and the legibility of the material. Woods, Moscardo, and Greenwood (1998, p. 51) comment "[i]t is certainly true that a positive readability score does not guarantee that a piece of text can in fact be successfully read."

Notwithstanding these issues, studies have demonstrated that when correctly applied, readability formulae have considerable merit. Based on a review of readability formulae-related studies, Klare (1980), for example, found that readability scores were related to the probability of text being read completely, the amount of read information that can be subsequently recalled, the time taken to read a document, and the reader's personal ratings of reading difficulty. From a practical perspective, readability formulae have found application in a wide variety of organisational settings, including assessments of business forms, user guides, consent forms, product labelling, and signs/notices. Woods et al. (1998, p. 51), for instance, note that "[t]he purposes of using readability tests in interpretation are to ensure the language style is not too difficult for the average visitor, and to assist in avoiding unnecessary scientific jargon." We argue that readability formulae represent valuable indicators of the readability of corporate disclosures. Further, when used as a comparative tool (for instance, for determining whether corporate disclosures of companies with certain characteristics are more readable than those of other companies) rather than to establish precise education levels required for the comprehension of narratives, many of the criticisms of readability formulae are mitigated.

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[4] Readability Prep deletes sentences of less than three characters, sentences with no keyboard characters, and sentences with no (hard) end punctuation such as headings. In addition, it changes web address to "websiteaddress", changes email address to "emailaddress", changes words over 36 characters to "verylongword" and finally omits all list entry designations.

Due to its prevalence in previous studies and acceptance in the literature, the Flesch formula is used as the primary readability indicator in this study. However, for the purposes of sensitivity analysis, several alternative readability measures are used, including the Flesch–Kincaid, Smog, and Fog formulae.

4.3.2 Thematic measures

Thematic research has typically investigated the association between financial performance and positive and negative themes in corporate disclosures. As discussed previously, we make use of a negative keyword counts, consistent with much of the extant literature, but also make use of a positive keyword counts. Appendix A presents our negative keyword list based on the list used in Abrahamson and Park (1994). Our positive keyword list is also included, based on the antonyms of the words included in the negative keyword list. DICTION 6.0 is used to determine word counts based on these two lists in the form of custom dictionaries.

Table 1: DICTION Master Variables

Variable	Definition	Formula
Certainty	Language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra	[Tenacity + Levelling + Collectives + Insistence] – [Numerical Terms + Ambivalence + Self Reference + Variety]
Optimism	Language endorsing some person, group, concept or event or highlighting their positive entailments.	[Praise + Satisfaction + Inspiration] – [Blame + Hardship + Denial]
Activity	Language featuring movement, change, the implementation of ideas and the avoidance of inertia.	[Aggression + Accomplishment + Communication + Motion] – [Cognitive Terms + Passivity + Embellishment]
Realism	Language describing tangible, immediate, recognizable matters that affect people's everyday lives.	[Familiarity + Spatial Awareness + Temporal Awareness + Present Concern + Human Interest + Concreteness] – [Past Concern + Complexity]
Commonality	Language highlighting the agreed upon values of a group and rejecting idiosyncratic modes of engagement.	[Centrality + Cooperation + Rapport] – [Diversity + Exclusion + Liberation]

(Source: Digitext Inc. (2011))

We also consider a range of additional themes in disclosures providing for a richer assessment of textual tone than is evident in much of the extant literature. In particular, we consider the relationships between company performance and the use of the following semantic

features/themes: Activity, Optimism, Certainty, Realism and Commonality. These themes, their definitions and DICTION formulae are summarised in table 1.

4.4 Independent/Control Variables

In testing our hypotheses, we account for a variety of explanatory variables that prior literature has shown to be associated with the readability or thematic content of corporate disclosures.

Size: Company size can capture many different aspects of a company's operational and business environment and can influence the readability of its disclosures (see for example, Li, 2008; Richards & Van Staden, 2015; Bradbury, 2009) It is expected that larger companies will have longer and more complex annual report disclosures. Similar to previous research, we will define company size as the natural log of the market value of the company at each fiscal year balance date. The market value is extracted from the Osiris database wherever possible, with missing data collected from the DataStream database. To allow direct comparison between Australia and New Zealand, these values are converted into New Zealand currency (NZ$) at the relevant balance day conversion rates.

Solvency: Prior research, such as Bradbury (2009), has found significant relationships between solvency and leverage ratios and levels of company disclosure. However, empirical evidence on the actual effects of these elements on levels of disclosure and its quality is somewhat inconclusive (see for example, Khlif & Souissi, 2010; Naser, 1998; Alsaeed, 2006; Eng & Mak, 2003; Hassan, Giorgioni, & Romilly, 2006). Positive as well as negative relationships between disclosure levels and leverage were observed. Focusing on readability of disclosures and leverage, Richards and Van Staden (2014) failed to identify any significant relationship. To capture any effect such elements may have, we use the year-end solvency and current ratios (as extracted from the Osiris or DataStream databases).

Industry: We propose that companies in some industries may have more complicated communications due to the different information they must disclose and that industry type therefore influence the readability of disclosures. Studies such as Li (2008), and Richards and Van Staden (2014) provide evidence that such a relationship exists. We categorise our sample companies according to six industry classifications and represent them in our regression models with five dichotomous variables (with the sixth industry serving as the 'reference' group). These simplified classifications are based on industry classifications within Osiris.

Country: While Australia and New Zealand are close economic partners and share a similar cultural, legal and institutional setting, we nevertheless include a dichotomous variable

in order to assess the existence of any Trans-Tasman difference in the disclosures. If the company's primarily listing is in Australia then this variable will be recorded as '1', else '0'.

Profitability/Performance: It is suggested that companies with high profitability are motivated to disclose more clear, unambiguous, and accessible information than those with lower profitability. Agency theory would suggest that good performance allows managers to actively sell and promote their superior managerial capabilities. By actively divulging information in a clear and unambiguous manner, managers will be in a position to engender higher levels of confidence in investors, which would, in turn, be reflected by higher compensation (see for example, Ahmed & Courtis, 1999; Khlif & Souissi, 2010). As a proxy for profitability we use several alternative indicators including net profit margin, return on equity (ROE), and return on assets (ROA). Managers wishing to signal positive future opportunities and performance also have an incentive to ensure signals in corporate communications are clear and unambiguous. Consequently, readability is expected to also be related to future performance. In our study, we measure future performance using the same proxies used to measure current performance. That is, we include measures for net profit margin, ROE, and ROA for time period t+1.

Data for the study's independent and control measures are obtained using Datastream and Orbis databases. Table 2 summarises the relevant measures.

Table 2: Independent/Control Variables Summary

Variable	Description
Size	Natural Log of market value represented in New Zealand dollars.
Solvency	Solvency and current ratios at year end.
Industry	Dichotomous variable created for k-1 industry classifications to capture membership of that industry.
Country	Dichotomous variable called Australia. Companies whose primary listing is in Australia are coded as '1', else '0'.
Profitability	Net profit margin, return on equity, and return on assets at time period t.
Future Profitability	Return on equity, return on assets and net profit margin at time period t+1.

5. Results

5.1 Descriptive Statistics

Our initial sample, noted in Section 4.1, had to be reduced due to the unavailability of data in source databases and, in several instances, due to conversion issues associated with extracted pdf reports. The final usable sample consisted of 39 companies from the NZX50 and 85 companies from the ASX100. A total of 255 individual disclosures were identified and extracted from the NZX50 companies, while 568 were extracted from ASX100 companies. After combining the data from these two sources, the total data set contained 824 individual texts. Table 3 provides the disclosure frequencies and as expected the data was dominated by the three typical annual report sections: chairman's letters, discussion sections and notes. These three disclosures make up 79% of the tested disclosures while CSR based disclosures, made up just 21% of the sample. Six industries are represented, with the services and investment/finance the largest industries, making up 25.3% and 21.9% of the sample respectively, while primary and energy were the smallest, making up just 9.0% and 9.8% respectively.

Table 3: Disclosure Representation

	Frequency	%	Measure
CSR Report – Opening Letter	54	6.56	CSR Open
CSR Report – Main disclosure sections	60	7.29	CSR Main
Annual Report – Dedicated CSR sections	59	7.17	AR CSR
Annual Report - Chairman's Letter	188	22.82	AR Chair
Annual Report - MD&A	230	27.95	AR Disc
Annual Report – Financial statement notes	233	28.31	AR Notes
Total	824	100.00	

Table 4 provides the descriptive statistics. The average disclosure length was 9,111 words, while the DICTION master variables all had an average word count of between 44 and 53 words (per 500), with relatively small standard deviations of 2 to 4 words. However, the large range of values indicates that there were some outliers present. The positive and negative word counts were the smallest counts, averaging just 5.67 and 1.14 words respectively. Negative word use had small variance with a range of just 15 words and a standard deviation of approximately 1.5 words, suggesting that 95% of the negative word counts were in the range of 0 to 4.2 words. The positive word counts varied more, with a range of 36 words (140% larger than the negative count) and the standard deviation suggesting that 95% of the counts were between 0 and 16.5 words.

The mean Flesch reading score[5] of the sample was 29.13, with a wide range in scores (from 1.00-56.00). Converting the mean score to grade level suggests that, on average, corporate disclosure documents in our sample required the readability level approaching that of a postgraduate student. This is consistent with prior studies, which have shown that corporate documents to be "… couched in an academic, scientific style which the unsophisticated reader would find difficult or very difficult, to read" (Jones, 1988, p. 298). The mean reading level scores for the Flesch-Kincaid, Fog and Smog measures of 15.05, 18.31, and 16.24, respectively, tell a similar story. All three mean scores are consistent with a relatively high reading level being required for adequate comprehension of the documents in our sample.

Table 4: Descriptive Statistics

	Min	Max	Range	Mean	Std. Dev.
Activity	0	62.53	62.53	49.02	4.21872
Optimism	42.80	65.52	22.72	51.10	2.45191
Certainty	40.64	73.68	33.04	51.97	4.16902
Realism	13.88	61.02	47.14	44.49	3.21341
Commonality	35.19	153.37	118.18	52.75	4.69248
Positive	.00	35.91	35.91	5.67	5.54606
Negative	.00	15.00	15.00	1.14	1.54670
Flesch	1.00	56.00	55.00	29.13	8.00073
Flesch Kincaid	10.00	21.50	11.50	15.05	1.83019
Fog	12.80	24.40	11.60	18.31	1.89990
Smog	11.10	20.90	9.80	16.24	1.40320
Total Words	43.00	95,181.00	95,138.00	9,111.16	10,245.12
MV NZ$(000)	37,747	200,469,920	200,432,172	113,167,381	23,311,210
Profit Margin %	-336,580	192.00	336,772	-1,379.85	20,649.70
Fut. Profit Margin %	-336580	857.00	337437	-1257.85	20547.31
ROE %	-115.07	1221.00	1336.07	16.89	79.16990
Fut. ROE %	-115.07	120.91	235.98	9.22	23.94281
ROA %	-47.06	47.31	94.37	4.55	10.08146
Fut. ROA %	-47.06	31.40	78.46	3.88	9.40843
Current	.02	19.20	19.18	1.60	1.80896
Solvency	-114.01	93.25	207.26	41.97	24.49217

Note: Profit margin results are heavily skewed by the abnormal results of Pike River Coal Ltd. removal of this company's results creates a mean profit of 1.7% and future profit of 5.4% with standard deviations of 81.89 and 61.52 respectively.

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[5] Note that while Flesch scores are positively related to readability (i.e., higher scores are indicative of better readability), the alternative readability measures are all inversely related to readability, i.e., higher scores are indicative of less readable text.

A Shapiro-Wilk normality test was conducted on all variables across individual disclosure types and for the whole data set. Following the general guidelines of the tests, many of the variables were not normally distributed. As a consequence, our subsequent tests assume non-normality. A correlation matrix containing the study's continuous variables is presented in Appendix B.

5.2 Univariate Analysis

Table 5 shows mean scores for the readability and thematic variables for the highest and lowest profitability deciles (based on profit margin). Mann Whitney U tests suggest that at a univariate level, three impression management variables differed according to profitability level. These were all measures of readability, namely Flesch Kincaid, Fog and Smog. The higher values for these measures for less profitable companies indicates that these companies generally had less readable corporate documents consistent with obfuscation and impression management – this is consistent with H1a. Thematic variables were not significantly different between high and low profitable companies, contrary to H1b. However, the results suggest that less profitable companies may be mimicking the textual tone of profitable companies as a form of image management.

Table 5: Means for Thematic and Readability Scores Across
Most and Least Profitable Companies

Variable	Least Profitable (Lowest decile) n=80	Most Profitable (Highest decile) n=81
Activity	48.19	48.85
Optimism	51.14	51.09
Certainty	52.35	52.41
Realism	44.65	44.89
Commonality	54.54	52.73
Positive	5.02	6.08
Negative	1.27	1.07
Positive-Negative	3.75	5.01
Flesch	28.60	30.70
Flesch Kincaid	15.39	14.65*
Fog	18.74	17.88*
Smog	16.52	15.88*

*Significantly different at the .05 level (Mann Whitney U test)

21

Table 6 shows the means for variables according to individual disclosure type to allow for intergroup comparisons. Annual reports' chairman's letters had the highest use of positive language (12.0 keywords per 500) followed by CSR reports' opening letters (7.7 keywords per 500) and annual reports' CSR sections (6.4 keywords per 500). The remaining disclosures had considerably less positive language using around 3-4 positive keywords words per 500. Likewise, negative word use was higher in annual reports' chairman's letters with around 1.9 negative keywords per 500; however, financial notes had the second highest counts at just over one keyword. All the remaining disclosures had around one keyword per 500 or lower. The Optimism variable was highest for annual reports' chairman's letters and CSR reports' opening letters, mirroring the result for positive keywords. Among the other Diction master variables, notable differences between disclosures include relatively high Activity scores for all CSR-related correspondence; high levels of Realism embodied in CSR reports' opening letters and annual reports' chairman's letters; and, perhaps not surprisingly, relatively high Certainty scores in annual report note disclosures relative to other disclosures.

In terms of readability, the various measures suggest that CSR reports' opening letters and annual reports' chairman's letters are the most readable forms of correspondence. Considering only the traditional elements of the annual report, the results are consistent with H2, i.e., the most regulated element, footnotes, is least readable, while the least regulated element, the chairman's letter, is the most readable. The discussion and analysis section falls somewhere in between.

An interesting finding is that CSR reports that are included in annual reports are consistently less readable than similar reports issued independently of the financial statements. Further, and surprisingly, such reports are also somewhat less readable than notes to the financial statements.

Table 6: Means for Thematic and Readability Scores Across Disclosure Types

Variable	(1) CSR- Open n=54	(2) CSR- Main n=60	(3) AR CSR n=59	(4) AR Chair n=188	(5) AR Disc n=230	(6) AR Notes n=233	Kruskal -Wallis Sig	Post hoc test results[a]
Activity	50.405	50.098	50.020	48.637	48.886	48.612	.000	1>4, 1>5, 1>6, 2>4, 2>5, 2>6, 3>4, 3>5, 3>6
Optimism	53.367	50.965	52.393	53.318	50.197	49.392	.000	1>2, 1>5, 1>6, 2<3, 2<4, 2>6, 3>5, 3>6, 4>5, 4>6, 5>6
Certainty	48.703	50.200	50.069	49.833	53.187	54.177	.000	1<5, 1<6, 2<5, 2<6, 3<5, 3<6, 4<5, 4<6
Realism	46.350	41.850	43.603	46.312	43.981	43.995	.000	1>2, 1>3,1>5,1>6, 2<4, 2<5, 2<6, 3<4, 4>6, 5<4
Commonality	51.067	51.807	52.276	51.962	53.177	53.706	.000	1<5, 1<6, 2<5, 2<6, 3>4, 4<5,4<6
Positive	7.664	3.626	6.402	12.049	3.278	2.767	.000	1>2, 1<4, 1>5, 1>6, 2<4, 2>6, 3<4, 3>5, 3>6, 4>5, 4>6
Negative	.909	1.065	.658	1.935	.568	1.246	.000	1<4, 1<6, 2>5, 3<4, 3<6, 4>5, 5<6
Pos-Neg	6.755	2.561	5.744	10.114	2.710	1.521	.000	1>2, 1>5, 1>6, 2<3, 2<4, 2>6, 3<4, 3>5, 3>6, 4>5, 4>6, 5>6
Flesch	29.259	28.817	22.509	35.277	28.948	26.068	.000	1>3,1<4, 2>3, 2<4, 3<4, 3<5, 3<6, 4>5, 4>6, 5>6
Flesch Kincaid	14.872	14.577	15.825	14.131	14.895	15.922	.000	1<6, 2<3, 2<6, 3>4, 3>5, 4<5, 4<6, 5<6
Fog	17.870	17.512	18.768	17.552	18.394	19.043	.000	1<3, 1<6, 2<3, 2<5, 2<6, 3>4, 4<5, 4<6, 5<6
Smog	15.756	15.595	16.461	15.525	16.229	17.037	.000	1<6, 2<3, 2<5, 2<6, 4<3, 4<5, 4<6

[a] The significance level is .05

23

5.3 Multivariate analysis

Linear Regression models are presented below for both readability and thematic indicators.

5.3.1 Readability

The theoretical linear model used to examine the determinants of disclosure readability is as follows (with readability being measured using the Flesch score[6]):

Equation 1: Theoretical Readability Linear Regression Model

Readability = α + β1 (LN MV NZD) + β2 (Profit Margin) + β3 (Current) + β4 (Solvency) + β5 (Fut. Profit) + β6 (CSR Open) + β7 (CSR Main) + β8 (AR CSR) + β9 (AR Chair) + β10 (AR Disc) + β11 (Energy) + β12 (Goods) + β13 (Industrial) + β14 (Investment) + β15 (Primary) + β16 (Australia) + e

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The six types of disclosure were represented by five dummy variables, with notes to the financial statements serving as the reference group. The resulting model is presented in Table 7. Analysis of the normal probability plot of the residuals suggested that the error term was normally distributed, confirming the appropriateness of the use of regression analysis. ANOVA tests show the model to be statistically significant with an F value of 23.7 and significance of 0.000. The model has an adjusted R^2 of 0.31 suggesting that 31% of the variance in the Flesch score was accounted for by the variance of the model's predictor variables.

The model reveals eight significant predictors for readability. Results suggest that profitability, leverage and solvency had no relationship with readability. Likewise, future profitability had no bearing on the readability of disclosures. These findings suggest that there is no manipulation of readability levels to obfuscate performance.

Disclosure type was a significant predictor of readability. Annual reports' chairman's letters, annual reports' management discussion and analyses, CSR opening letters, and CSR main are all significantly more readable than the notes to the financial statements (the reference group). Echoing the univariate analysis, annual report CSR reports are less readable than the notes to the financial statements. The model suggests that annual reports' chairman's letters had Flesch scores 8.93 points higher than corresponding scores for the notes to the financial statements, while annual reports' CSR sections were 2.48 points lower, respectively. Given that higher

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[6] As noted earlier, alternative readability measures are used for sensitivity analysis (the results of which are discussed later in the paper). Correlations between the different readability measures were all strong (positive correlations ranging from .97 to .98, negative correlations ranging from -.88 to -.91) and all in the expected direction. These correlations provide strong evidence of the convergent validity of the various indicators.

Flesch scores indicate higher levels of readability, chairman's letters were the most readable disclosures while annual reports' CSR sections and financial notes are the least readable. Considering just the traditional narrative elements of the annual report (i.e., the chairman's letter, the discussion and analysis, and the footnotes) the results are consistent with H2, that is, more highly regulated documents (e.g., footnotes) tend to be less readable than less regulated disclosures (e.g., chairman's letter). An interesting finding is the significantly lower level of readability of annual report's CSR sections relative to all sections of standalone CSR reports.

Table 7: Readability (Flesch) Linear Model

	Un-Standardised Beta	Error	Standardised Beta	t	Sig
(Constant)	26.96	4.15	.00	6.49	.000
LN MV NZD	.20	.20	.04	1.01	.313
Profit	.00	.00	-.02	-.65	.258
Current	-.16	.19	-.03	-.84	.404
Solvency	.00	.01	.00	.00	.996
Fut. Profit	.00	.00	.00	-.01	.497
CSR Open	3.90	1.06	.12	3.68	.000
CSR Main	3.81	1.01	.12	3.76	.000
AR CSR	-2.48	1.00	-.08	-2.47	.014
AR Chair	8.93	.67	.47	13.37	.000
AR Disc	2.90	.63	.16	4.58	.000
Energy	-2.71	.89	-.10	-3.04	.002
Goods	-2.19	.76	-.10	-2.88	.004
Industrial	-.82	.79	-.04	-1.04	.299
Investment	-1.03	.71	-.05	-1.46	.146
Primary	-1.09	.96	-.04	-1.13	.259
Australia	-5.80	.71	-.32	-8.19	.000
F Value	23.70				
Sig.	.000				
Adj R square	.31				

Note: All significance levels are 2-tailed, with the exception of the variables Profit and Future Profit, which both have expected directional relationships with the criterion variable. Accordingly, 1-tailed significance levels are reported for these variables.

In addition to two industry groups, the final significant predictor of Flesch scores is the country dummy variable, Australia (consistent with H4a). This had a beta of -5.80. The model suggests that the disclosures of companies listed in New Zealand had Flesch scores 5.80 points higher than Australian listed companies. This suggests that New Zealand disclosures are typically less complicated and more readable than Australian disclosures.[7]

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[7] Sensitivity tests were undertaken to examine the alternative measures of profitability and future profitability (i.e. ROE, ROA, Future ROE, and Future ROA) within the original Flesch model. When future profitability was measured using Future Net Profit Margin, the inclusion of either ROE or ROA as measures of profitability resulted

5.3.2 Thematic

The second theoretical linear model examines determinants of the thematic content of disclosures. Equation 2 (below) presents the relevant research model. Note that alternative measures of thematic content were used with separate regressions being run for each measure.

Equation 2: Theoretical Thematic Linear Regression Model

Thematic = α + β1 (LN MV NZD) + β2 (Profit) + β3 (Current) + β4 (Solvency) + β5 (Fut. Profit) + β6 (CSR Open) + β7 (CSR Main) + β8 (AR CSR) + β9 (AR Chair) + β10 (AR Disc) + β11 (Energy) + β12 (Goods) + β13 (Industrial) + β14 (Investment) + β15 (Primary) + β16 (Australia) + β17 (Readability) + e

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Table 8 presents the thematic regression results with Diction master variables as the alternative measures for the dependent variable, Thematic. The first thematic model is for the variable Activity. This model was the weakest thematic model, capable of explaining just 2% of the variance in Activity keywords. The model found two disclosure variables significant at 0.05 levels. The betas suggest that, relative to the notes to the financial statements, CSR disclosures typically had greater use of language representing change, implementation of new ideas or avoidance of inertia, with CSR reports' opening letters and main section both reaching significance and positive betas of 1.73 and 1.52 respectively. Although having a positive beta of 1.21, annual reports' CSR sections marginally failed to meet significance. The investment/finance industry classification was also significant in the model with a beta of -0.92. The model suggests that a disclosure from companies in this industry contains almost one less Activity keyword per 500-words. Lastly, readability was found to negatively relate to Activity. That is, the greater the Activity theme, the less readable the communications.

The Optimism linear model explained 44% of the variance in the use of Optimism keywords. Solvency reached significance in the model with a beta suggesting that companies that were more solvent tended to use more Optimism keywords. Optimism was positively related to all CSR disclosures indicating that, relative to the notes to the accounts, significantly higher levels of endorsing language are found in such disclosures. Betas suggest that on average, CSR opening letters, main sections and annual report CSR sections contained 4.1, 1.6 and 3.1 additional keywords per 500-words, respectively. Likewise, annual reports' chairman's letters had a positive relationship with Optimism. These disclosures contained 3.9 additional

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in a significant coefficient for profitability. However, no significant result for profitability was obtained when Future ROE or Future ROA were used as measures of future profitability, respectively.

Optimism keywords per 500-words relative to the notes to the financial statements. Annual reports' discussion was also positively related to Optimism.

Certainty's linear model revealed eight statistically significant predictors in a model that is capable of explaining 26% of the variance in Certainty keywords. Relative to the notes to the financial statements, all other document types contain significantly fewer Certainty keywords. Given the nature of notes to the accounts, this is hardly surprising. Additionally, the betas corresponding to two industry groups (goods and primary) indicated that these industries use significantly fewer Certainty keywords relative to companies in the service industry. Readability was also found to be negatively associated with Certainty.

Realism has five significant predictors, all at 0.001 levels with an adjusted R square value suggesting that 28% of the variance in Realism keywords can be explained by the model. Relative to the notes to the accounts, annual reports' chairman's letters and CSR reports' opening letters contained greater use of Realism keywords, suggesting they placed greater emphasis on tangible, immediate and recognizable matters that affect people's everyday lives. Negative relationships between both CSR reports' main sections and Australian disclosures, and Realism were also found. The significant 'country' indicator suggests that New Zealand listed companies used an additional 1.14 Realism keywords per 500-words compared to their Australian counterparts.

Commonality is the final DICTION variable investigated. This was the second weakest model, capable of explaining just 3% of the variance in Commonality keywords. It had four significant variables, all of having a negative relationship with Commonality. The three CSR-related disclosures and the annual reports' chairman's reports appear to use significantly fewer Commonality keywords relative to the notes to the financial statements. That is, less emphasis on highlighting agreed upon values of a group or helping minimise idiosyncratic views.

The last three thematic indicators, positive, negative, and net positive words (positive-negative words) also include the Flesch score as a predictor. The latter is used to assess hypothesis 1c (which tests whether positive and negative disclosures are related to readability). The Positive keyword model (Table 9) had relatively high explanatory power, being capable of explaining 48% of the variance in positive keyword use. The model identifies three disclosure types and one industry as being significant predictors of the number of positive keywords.

Table 8: Thematic Linear Models

	Activity			Optimism			Certainty			Realism			Commonality		
	Beta	Std Beta	Sig.	Beta	Std Beta	Sig.	Beta	Std Beta	Sig.	Beta	Std Beta	Sig.	Beta	Std Beta	Sig.
(Constant)	50.11	.00	.000	50.61	.00	.000	60.13	.00	.000	40.08	0	.000	54.57	.00	.000
LN MV NZD	.02	.01	.853	-.07	-.05	.184	-.15	-.06	.164	.05	.03	.506	.02	.01	.904
Profit	.00	-.03	.418	.00	.05	.094	.00	-.01	.680	.00	-.02	.457	.00	.00	.962
Current	.05	.02	.694	-.06	-.03	.258	-.01	.00	.895	-.03	-.01	.679	-.04	-.01	.743
Solvency	-.01	-.06	.123	.01	.07	.014	.00	.02	.598	.00	-.01	.842	.00	.03	.503
Fut. Profit	.00	-.02	.639	.00	-.01	.721	.00	-.01	.847	.00	-.06	.051	.00	.03	.466
CSR Open	1.73	.10	.010	4.09	.41	.000	-5.03	-.29	.000	2.07	.16	.000	-2.38	-.12	.001
CSR Main	1.52	.09	.019	1.64	.17	.000	-3.64	-.22	.000	-2.34	-.19	.000	-1.66	-.09	.020
AR CSR	1.21	.07	.057	3.10	.33	.000	-4.33	-.27	.000	.13	.01	.759	-1.62	-.09	.021
AR Chair	.32	.03	.487	3.93	.68	.000	-3.68	-.37	.000	1.11	.14	.000	-1.37	-.12	.008
AR Disc	.32	.03	.434	.83	.15	.000	-.83	-.09	.017	-.34	-.05	.192	-.43	-.04	.341
Energy	-.68	-.05	.228	-.08	-.01	.744	-.62	-.04	.204	.36	.03	.323	-.18	-.18	.773
Goods	.19	.02	.690	.15	.02	.483	-1.00	-.09	.015	.31	.04	.320	.46	.46	.387
Industrial	-.41	-.04	.407	-.01	.00	.968	-.81	-.07	.059	.34	.04	.295	.19	.19	.734
Investment	-.92	-.09	.040	.18	.03	.346	-.07	-.01	.847	.22	.03	.442	.89	.89	.073
Primary	-.39	-.03	.517	.29	.03	.269	-1.62	-.11	.002	-.21	-.02	.601	-.57	-.57	.392
Australia	-.09	-.01	.851	.12	.02	.557	-.04	.00	.927	-1.14	-.16	.000	-.52	-.05	.310
Readability	-.05	-.09	.046	.00	.00	.921	-.08	-.16	.000	.13	.33	.000	-.04	-.08	.079
F Value	1.73			37.68			17.08			19.30			47.95		
Sig.	.033			.000			.000			.000			.003		
Adj R Sq	.02			.44			.26			.28			.03		

Note: All significance levels are 2-tailed.

The three disclosure relationships were all significant at 0.001 levels and suggest that annual reports' chairman's letters were the most positive disclosure, relative to the notes to the financial statements, with an additional 9.0 positive words per 500-words. CSR reports' opening letters had the second largest use of positive keywords, relative to the notes, with 5.0 additional words and finally, annual reports' CSR sections with 3.9 additional positive words. In addition, the model finds companies operating in the primary and goods industries tended to contain 1.7 and 0.9 additional positive keywords (per 500-word sample) relative to companies in the service industry, respectively. The final significant predictor discovered by the model is readability. Its beta suggests that disclosures that were easy to read contain more positive keywords while harder to read disclosures contain fewer positive keywords. As was expected, this would suggest that a manipulation is present, with managers attempting to obfuscate less positive news.

Table 9: Positive/Negative Linear Models

	Positive		Negative		Pos-Neg	
	Beta	Sig	Beta	Sig	Beta	Sig
(Constant)	1.32	.600	.17	.855	1.15	.656
LN MV NZD	-.01	.918	.05	.231	-.06	.592
Profit	.00	.175	.00	.336	.00	.094
Current	-.03	.784	-.02	.562	-.01	.954
Solvency	.00	.783	.00	.545	.00	.960
Fut. Profit	.00	.085	.00	.741	.00	.071
CSR Open	5.01	.000	-.47	.047	5.47	.000
CSR Main	.70	.251	-.25	.271	.94	.128
AR CSR	3.85	.000	-.61	.006	4.45	.000
AR Chair	9.02	.000	.59	.000	8.43	.000
AR Disc	.48	.211	-.72	.000	1.19	.002
Energy	.05	.919	.30	.131	-.24	.654
Goods	.91	.045	.28	.092	.62	.177
Industrial	-.19	.689	.12	.482	-.31	.518
Investment	.68	.104	.15	.328	.53	.217
Primary	1.68	.003	.20	.336	1.48	.011
Australia	.45	.304	-.22	.169	.67	.133
Readability[a]	.04	.030	.00	.378	.04	.043
F Value	43.76		5.98		34.83	
Sig.	.000		.000		.000	
Adj R Sq	.48		.10		.42	

[a] The significance level reported for Readability (Flesch) is 1-tailed as this variable is expected to have a directional relationship with the criterion variable, all others are 2-tailed.

Relative to Positive word use, the Negative word use model (also shown in Table 9) had lower explanatory power with an adjusted R square value of 0.10. Four predictor variables

reached significance, all of which were disclosure variables. Relative to the notes to the financial statements, annual reports' chairman's letters used marginally more negative words per 500 words, whereas CSR opening letters, annual reports CSR sections and annual reports' discussion and analysis sections used significantly fewer. The results for net positive tone (presented in the final columns of Table 9) reveal results largely consistent with those of separate positive and negative keyword models, respectively.[8]

6. Discussion and Conclusion

The relationship between firm profitability and two types of impression management strategy, readability (i.e., H1a) and thematic manipulation (i.e., H1b), is an important focus in this study. With respect to H1a, our results show partial support for the use of readability as a means of obfuscating 'bad news.' Univariate tests find significant differences in three measures of readability across a subsample of the least profitable and most profitable companies included in our sample of Australian and New Zealand publicly listed companies. Although our main multivariate model finds no association between firm profitability and readability (using the Flesch measure), sensitivity analysis using alternative measures of profitability and future profitability find significant positive relationships between these variables in two models tested.

The assertion that profitability is associated with thematic variables (H1b) was examined via a series of regression models. The findings show that none of the thematic variables appeared to have a relationship with profitability at the 0.05 level of significance. As Sydserff and Weetman (2002) comment, poorer performing companies can use impression management to make their narratives resemble the verbal tone and themes of higher performance companies. Our results suggest that this may be happening in the Australian and New Zealand context. The negative and positive variables provided strong evidence of this mimicking tendency, as these two counts should theoretically vary depending on the profitability of a company, yet clearly did not. Our results support previous research (such as Hildebrandt & Snyder, 1981; Rutherford, 2005; Guillamon-Saorin, 2006), finding a clear bias towards positive words in all disclosures, supporting the Pollyanna principle.

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[8] Following the sensitivity analysis used for the readability models, the above models were re-specified substituting profit margin and future profit margin with their ROA and ROE counterparts. None of the profitability indicators were statistically significant (and the coefficients of the other predictors were not materially affected by the alternative measures).

The mirroring of the thematic content by poorer performing firms was also evident in relation to the DICTION master variables considered in this study. Research involving the application of DICTION to accounting disclosures is still in its infancy. However, the few studies in this area yield results similar to our own. Ober et al. (1999), for instance, found Certainty unrelated to both short-term profitability and industry. As with our study, Sydserff and Weetman (2002) find no relationship between short-term profitability and the DICTION variables Activity, Realism, Certainty and Optimism at the 0.05 level. However, unlike our study, Sydserff and Weetman (2002) find a significant difference on the Commonality variable for manager's but not chairman's reports.

We are the first to be able to combine thematic and readability analysis to test whether the readability of a disclosure is related to the number of positive or negative keywords in a disclosure (i.e., H1c). If manipulation is present, then disclosures that are less readable should contain more negative and fewer positive keywords. Likewise, disclosures that are more readable should have more positive and fewer negative keywords. We only find a significant relationship with positive keywords. This suggests that disclosures that contain more positive keywords (i.e. had a more positive theme) were more readable than disclosures with fewer positive keywords.

Our research design allowed us to compare the readability of various types of reports (i.e., annual reports and CSR reports) including both regulated and unregulated disclosures. As far as we are aware this has not been done to the same extent before in the literature. H2 considered whether more regulated disclosures (such as notes to the financial statements) are less readable than less regulated disclosures (such as CSR reports and chairman's letters). As expected, notes to the financial statements were the least readable disclosures of the traditional annual report elements. The most readable disclosure was the annual reports' chairman's letters. The management's discussion and analysis section together with standalone CSR reports' opening letters and main sections were somewhere between footnote disclosure and chairman's letters. An interesting finding was that disclosures from standalone CSR reports were generally found to be significantly more readable than CSR disclosures made in annual reports. Indeed, CSR reports embedded in annual reports were considerably less readable than annual report footnotes.

Overall, the average level of readability across all disclosure types examined in this study was low, suggesting that unsophisticated readers would struggle to fully comprehend the messages contained within them. This finding is likely to be of particular interest to standard-setters and financial market regulators who are currently endeavouring to improve the quality

of communication in financial reports. For instance, New Zealand's Financial Markets Authority, for instance, recently issued a report, "Quality Financial Reporting: How to Improve Financial Statements" in which they argue for clear and concise disclosures written in plain English. They recommend, for example, that in preparing financial statements, accountants "[c]onsider the style of writing, length of sentences and the use of large amounts of text. The language used should be precise and explain complex accounting and reporting issues clearly. Try to avoid technical jargon." (FMA, 2014, p.8).We also test if there is any difference in the thematic content and readability of CSR reports and annual reports, i.e., H3a and H3b. We have extended the typical readability and thematic data set to include disclosures from CSR reports. CSR reports are becoming progressively more popular with increasing public demand for corporate accountability and full disclosure of a company's effect on society. Despite the increasing prevalence and importance of such reporting, studies into the readability and/or thematic content of CSR use either very limited sample sizes or have limited generalisability (being specific to a set industry). By including CSR reports in this research, it has been empirically shown that CSR reports are considerably more readable than annual reports in general and have significantly different thematic characteristics (particularly in relation to Activity, Certainty, and Positivity). An interesting result is that CSR disclosures in annual reports differed considerably in terms of their readability from their counterparts in dedicated CSR reports; with an average grade score 0.8 higher suggesting approximately 30 weeks of additional education would be required to read them. These are observations future research can explore more in-depth.

As well as extending the data set of previous studies, this research also addresses the limited scope of thematic studies into accounting and business narratives. To achieve this DICTION 6.0 analysis is used, as suggested by Sydserff and Weetman (2002). This added the indicators Activity, Optimism, Certainty, Realism and Commonality. The addition of these variables provide additional evidence of thematic manipulation in disclosures with low profitability companies mimicking the narratives of high performance companies; the results also show a clear difference in the thematic content between different types of disclosures.

A contribution that will be of interest to Trans-Tasman investors, companies and regulatory bodies is the comparisons between the readability and thematic content of Australian and New Zealand disclosures. Interest in these findings is heightened by calls for closer economic ties between the two countries. This research highlights several areas that warrant additional investigation. In particular, Australian companies were found to have less readable disclosures. Future research should consider whether this is attributable to the greater

compliance focus in Australia or whether this may reflect other systematic differences, such as differences in the level of complexity of companies operating in each jurisdiction.

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Appendix A

Negative Connotations		Positive Connotations	
Accident	Inadequate	Ability	Increase
Adverse	Incompetence	Able	Lifted
Adversely	Insolvency	Accept	Lucrative
Anxious	Insufficiency	Accomplish	Optimistic
Apprehension	Insufficient	Adequacy	Pleased
Bad	Lack	Adequate	Pleasing
Badly	Liquidation	Advantage	Positive
Behind	Lose	Advantageous	Positively
Catastrophe	Losing	Ahead	Productive
Complications	Loss	Assured	Profit
Concern	Losses	Benefit	Profitable
Concerned	Lossmaking	Best	Progressive
Concerns	Lost	Boom	Prosper
Confrontational	Missed	Boosted	Prosperous
Crash	Negative	Buoyancy	Reassured
Crisis	Negatively	Capable	Rewarding
Damaging	Poor	Competence	Rise
Decline	Poorly	Confidence	Rising
Deficits	Powerlessness	Confident	Robust
Delay	Problem	Confidently	Safe
Delayed	Problems	Creditworthiness	Satisfaction
Delays	Recession	Definitely	Satisfactory
Depraved	Ruthless	Desirable	Satisfied
Depressed	Shortage	Encouraged	Satisfy
Deterioration	Shortfall	Encouraging	Save
Difficult	Sluggish	Enhanced	Saving
Difficulties	Slump	Enhancement	Solutions
Dip	Suffered	Excess	Solvency
Disappointed	Tough	Expansion	Stable
Disappointing	Trailing	Expansions	Strength
Disappointment	Troubled	Favourable	Strengthened
Disaster	Unable	Favourably	Strong
Distress	Unbeneficial	Flourish	Stronger
Disturbed	Undesirable	Flourishing	Succeed
Downturn	Unfavourable	Fortified	Succeeded
Downturns	Unfortunately	Fortifying	Success
Drop	Unprofitable	Gain	Successful
Dropping	Unrealized	Good	Superior
Fail	Unsuccessful	Grow	Surplus
Failed	Weak	Growing	Surpluses
Failure	Weakened	Growth	Thrived
Fragile	Weakening	Growths	Upgrading
Hazardous	Weaker	Improve	Upturn
Helplessness	Weakness	Improved	Victory
Hostile	Worst	Improvement	Wealth
Inability		Improvements	Well

| Total Negative Words: 91 | | Total Positive Words: 92 | |

The negative lest is based on Abrahamson and Park (1994) with the positive list based on the negative lists antonyms.

Appendix B: Correlation Table for Continuous Variables

	Activity	Optimism	Certainty	Realism	Commonality	Positive	Negative	Positive_Net	Flesch	Flesch_Kin	Fog	Smog	Ln_MV_NZD	Current	Solvency	Pro_Mar	ROE	ROA	Fut_Pro	Fut_ROE
Optimism	-.046																			
Certainty	-.014	-.363**																		
Realism	.097**	.225**	-.134**																	
Commonality	-.290**	-.114**	.312**	-.218**																
Positive	-.099**	.606**	-.331**	.234**	-.204**															
Negative	-.132**	-.076*	-.093**	.131**	-.036	.246**														
Positive_Net	-.065	.647**	-.314**	.204**	-.200**	.960**	-.034													
Flesch	-.078*	.198**	-.230**	.428**	-.100**	.280**	.124**	.253**												
Flesch_Kin	.040	-.164**	.251**	-.285**	.113**	-.202**	-.046	-.195**	-.908**											
Fog	.023	-.153**	.270**	-.260**	.113**	-.186**	-.061	-.175**	-.876**	.974**										
Smog	.019	-.218**	.312**	-.285**	.128**	-.244**	-.062	-.233**	-.877**	.971**	.982**									
Ln_MV_NZD	.051	.016	-.097**	-.151**	-.045	.006	-.012	.010	-.183**	.133**	.111**	.090*								
Current	-.012	.013	-.016	.029	-.041	-.048	-.028	-.042	.016	.018	.015	.007	-.085*							
Solvency	-.052	.049	.004	.014	.019	-.028	-.021	-.023	-.004	.036	.027	.018	-.102**	.321**						
Pro_Mar	-.016	.036	-.002	-.055	.006	.023	-.041	.035	-.055	.019	.016	.027	.088*	-.064	-.111**					
ROE	.025	.022	.020	.009	-.006	-.001	-.012	.002	.079*	-.082*	-.073*	-.078*	.128**	-.039	-.131**	.017				
ROA	.044	-.016	-.043	.001	-.038	.034	-.008	.037	.102**	-.139**	-.160**	-.150**	.055	.017	-.089*	.058	.056			
Fut_Pro	-.012	-.006	.001	-.079*	.032	.037	-.017	.043	-.030	.008	.009	.017	.066	-.205**	-.101**	.098**	.014	.031		
Fut_ROE	.043	-.051	-.066	-.010	-.018	.006	.014	.002	.119**	-.121**	-.129**	-.134**	.170**	-.095**	-.057	.066	.264**	.156**	.038	
Fut_ROA	.089*	-.057	-.066	.032	-.016	-.002	.033	-.012	.127**	-.125**	-.136**	-.128**	.077*	-.116**	-.169**	.107**	.127**	.355**	.055	.701**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).