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INTANGIBLES DISCLOSURE AND CAPITAL-RAISING IN AUSTRALIA: AN ANALYSIS OF INFORMATION INTENSITY

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ABSTRACT

After the adoption of AASB 138 in 2005, it is argued that information on intangibles is less visible in Australian companies' financial reports. In view of this limitation, this study examines the nature, extent and intensity of intangibles disclosure by listed companies in Australia. We establish, explore and demonstrate the concept of information intensity which indicates the strength of intangibles information presented by firms. We analyse the narrative sections in annual reports and prospectuses of 30 companies from the Top 200 Australian companies. The overall findings suggest that capital-raising companies make intangibles information visible in both annual reports and prospectuses by signalling information through pictures and repetition of intangibles information which indicates more intense signal. However, we find that the level of disclosure in prospectuses is much lower than the disclosure in the narrative sections in the annual reports. We argue that disclosure in prospectuses is subject to more stringent reporting and disclosure obligations as compared to narrative sections in annual reports. As a result, more intangibles information is observed in annual reports.

Keywords: intangibles, Australia, capital-raising, voluntary disclosure, impression management

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INTRODUCTION

Rapid changes in technology and the nature of business have resulted in a significant amount of investments in intangible resources by companies. Intangible resources have been recognised as the most important value drivers in the current economy in ensuring a firm's survival, its competitive position and its future growth (Bontis, Chong, & Richardson, 2000; Canibano, Garcia-Ayuso, & Sanchez, 2000; Firer & Williams, 2003; Yongvanich & Guthrie, 2005; Sonnier, Carson, & Carson, 2008). Much of the accounting literature focuses on the disclosure of intangibles or intellectual capital and there is extensive literature on the terms and meanings of intangibles. Lev (2001, p. 5) argues that the terms intangibles, knowledge assets and intellectual capital can be used interchangeably as they all refer to the same thing, which is a non-physical claim to future benefits. Abeysekera (2003), Abeysekera and Guthrie (2005) and Garcia-Meca, Parra, Larran and Martinez (2005) claim that intangibles refer to intangibles not recognised in the financial statements as assets, which include information on customers, human resources, business processes, innovation, leadership, technological systems, financial relations, training and development and corporate image building. For the purpose of this study, the term 'intangibles' is defined following (Lev, 2001, p. 5) as "claims to future benefits that do not have physical or financial embodiment". Intangibles are "non-physical sources of value generated by innovation, unique organisational designs or human resources practices" (Lev, 2001, p. 189).

In Australia, prior to 2005, under the Australian Generally Accepted Accounting Principles (AGAAP), intangibles such as research and development (R&D), goodwill and exploration and evaluation costs for extractive industries were regulated, while other identifiable intangibles were not (Bradbury, 2009). There was no prohibition for the recognition of other identifiable intangibles. There were also no restrictions placed on the estimation of the residual value of intangibles and they were subject to impairment tests as were other non-current assets. Prior to the adoption of Australian Accounting Standards Board (AASB) 138, Wyatt, Matolcsy and Stokes (2001) report that almost half of their sample recognised identifiable intangible assets other than deferred R&D costs and other deferred expenditures. They also indicate that this particular behaviour shows how significant identifiable intangible assets are. However, as part of the harmonisation of Australian Accounting Standards (AAS) with International Accounting Standards (IAS), many internally generated intangibles can no longer be capitalised, many recognised internally generated identifiable intangibles must be derecognised and research expenditure must be expensed as incurred. Specifically, the Australian equivalent of International

Financial Reporting Standards (AIFRS), AASB 138 Intangible Assets, prescribes that an intangible asset shall be recognised only if it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and if the cost of the asset can be measured reliably. The standard specifically prohibits the recognition of internally generated intangibles such as brands, mastheads, publishing titles, customer lists and intangibles arising from research.

Reflecting on the significant impact of the AIFRS on Australian firms, Ritter and Wells (2006) argue that recognised identifiable intangible assets are value relevant because there is a positive association between stock prices and voluntarily recognised and disclosed intangibles such as brand names, licences, trademarks and intellectual property. However, as AASB 138 is more restrictive with respect to intangibles recognition and measurement, the disclosure of intangibles will be greatly diminished (Ritter & Wells, 2006).

Lack of information on intangibles on the balance sheet has, therefore, tended to reduce, rather than improve the usefulness of the financial statements (Wyatt, 2005; Cheung, Evans, & Wright, 2008). Among other reasons that contribute to the decline of the usefulness of financial statements are claims that the current financial reporting framework is insufficient to keep pace with changes in the business world, particularly in capturing intangibles information (Amir & Lev, 1996; Stewart, 1997; Lev & Zarowin, 1999; Bontis et al., 2000; Canibano et al., 2000; Jenkins & Upton, 2001; Firer & Williams, 2003; Sonnier et al., 2008).

It can be argued that firms run the risk of exposing themselves to serious problems since they have less opportunity to signal important intangibles information. Lack of information may lead to serious problems such as additional cost of capital, deterioration of share liquidity and lower analyst following (Diamond & Verrecchia, 1991; Botosan, 1997; Holland, 2003; Petersen & Plenborg, 2006). It has also been argued that it is unlikely that intangibles other than those prescribed by the standard will be incorporated into traditional financial reporting in the near future (Mouritsen, Bukh, & Marr, 2004; Yongvanich & Guthrie, 2005), which, therefore, positions reporting intangibles as a supplementary disclosure issue (Bradbury, 2009; Walker, 2009).

The present study is motivated by the assumption that a strategy of voluntary disclosure of information has considerable potential for changing investors' perceptions of a firm. In view of the limitations of the existing financial reporting

framework, this study examines the nature, extent and intensity of corporate intangibles disclosure by public-listed companies in Australia and then explores how the differential disclosure may be explained by the intention to raise additional capital.

The remainder of the paper is structured as follows: the next section discusses prior literature relating to voluntary disclosure, impression management and capital-raising. The following section focuses on variety, extent and intensity of disclosure of information in annual reports and prospectuses. Then, the methodology adopted for the study, together with the sample selection and data are presented. Based on the analyses, the following section discusses the findings in the context of how capital-raising activity reflects the disclosure behaviour of firms. Last section presents a conclusion and suggestions for future research.

VOLUNTARY DISCLOSURE, IMPRESSION MANAGEMENT AND CAPITAL-RAISING

The literature in intangibles disclosure is expanding from a mere description of the disclosure practices of intangibles in various regions over time to the association between the level of disclosure and a firm's specific factors and capital market consequences. Empirical work examines company data in the public domain, such as annual reports and prospectuses, and employs methods such as content analysis, case studies, experiments and interviews. Even though there is no unanimous definition of intangibles, numerous intangibles disclosure studies adopted Sveiby's (1997) classification of intangibles: internal structure, external structure and employee competence. Examples of studies that have contributed to the intangibles disclosure literature are Australia (see Guthrie & Petty, 2000; Sujan & Abeysekera, 2007), Ireland (see Brennan, 2001), Malaysia (see Goh & Lim, 2004; Foong, Loo, & Balawaman, 2009), the Netherlands, France and Germany (see Vergauwen & Alem, 2005) and New Zealand (see Whiting & Miller, 2008). Despite the prior studies being conducted in different countries, their results suggest that the incidence of reporting is not great enough to be considered systematic. More importantly, the development of a theory and framework underlying voluntary disclosure of intangibles is in its infancy and a conclusion cannot be easily drawn (Abeysekera & Bounfour, 2006).

Prior studies in intangibles disclosure that provide theoretical explanations widely adopt legitimacy theory or stakeholder theory to explain the disclosure

behaviour of a firm (Guthrie, Petty, Yongvanich, & Ricceri, 2004); in which case Steenkamp (2007) and Kang (2007) argue that companies report intangibles to create social images or to improve their reputation and seek to meet explicit and implicit social expectations. It is argued in this study that legitimacy and stakeholder theories, even though relevant, are insufficient to explain the disclosure behaviour of firms, because managers might also signal important and powerful information to emphasise their strong position in the market to enhance the perceived value of a firm (Abeysekera & Guthrie, 2005). Signalling theory can therefore, explain voluntary disclosure of intangibles information (Whiting & Miller, 2008).

According to Murray, Sinclair, Power and Gray (2006), information released voluntarily can be a powerful indicator of performance and be more likely to represent a signal to the market and, therefore, this paper argues that firms are likely to disclose more information such as on employee competence, company reputation, business processes and organisational infrastructure to highlight certain aspects of their investments in intangibles. However, voluntary disclosures can either: (1) contribute to useful decision-making; or (2) constitute opportunistic behaviour through biased reporting or impression management (Merkl-Davies & Brennan, 2007). Impression management, as defined by Hooghiemstra (2000, p. 60) is "a field of study within social psychology studying how individuals present themselves to others to be perceived favourably by others" and this phenomenon has been extensively documented in the psychology literature, human behaviour and also politics (Clatworthy & Jones, 2003). It is a concept that underpins the idea that people actively form impressions of others (Schneider, 1981). Most impression management studies present evidence that some impression management tools give a favourable impression of a firm's performance and suggest that managers utilise impression management tools when engaging in opportunistic behavior.

In a corporate reporting context, firms may manipulate the content and presentation of information in corporate documents with the purpose of distorting readers' perceptions of corporate achievements (Godfrey, Mather, & Ramsay, 2003). Companies seek to find ways of capturing the attention of their corporate report readers and impression management predominantly occurs in less regulated narrative disclosures (Brennan, Guillamon-Saorin, & Pierce, 2009). For example, Campbell, McPhail and Slack (2010) find that annual reports have moved from simple accounting numbers to narrative, graphical, pictorial and broader aesthetic content. In this regard, a range of impression management tools are utilised by managers such as selectivity in graph choice (Beattie & Jones, 1992; Courtis, 1997), presentation

emphasis (Bowen, Davis, & Matsumoto, 2005) and thematic manipulation (Lang & Lundholm, 2000; Smith & Taffler, 2000; Rutherford, 2005) to draw a reader's attention to the content of the documents. However, it is argued in this paper that managers might also use impression management tools to overcome information asymmetry problem by facilitating investors to make better-informed decisions. Thus, some impression management tools might be selected responsibly by managers in disseminating information to improve readers' understanding of the corporate reports by providing stronger signals.

Among other motives that lead managers to increase their voluntary disclosure is the intention to issue equity (Myers & Majluf, 1984; Lang & Lundholm, 2000; Healy & Palepu, 2001). This is evidenced by a positive correlation between the need to access the capital market and the disclosure output. Research has examined the frequency of management forecasts (Ruland, Tung, & George, 1990; Frankel, McNichols, & Wilson, 1995); analyst ratings of disclosure quality (Lang & Lundholm, 1993); the level of information asymmetry (Dierkens, 1991; Petersen & Plenborg, 2006); the quality of Management Discussion and Analysis section in annual reports (Clarkson, Kao, & Richardson, 1994); and the use of conference calls (Frankel et al., 1995) to indicate the disclosure behaviour of firms having capital-raising activity. Secondary equity capital-raising is one of the most important activities of companies listed on the stock exchange because these companies have a mechanism for pooling of funds from many investors who wish to participate in a particular business venture (Lipton, Herzberg, & Welsh, 2010).

VARIETY, EXTENT AND INTENSITY OF INTANGIBLES DISCLOSURE IN ANNUAL REPORTS AND PROSPECTUSES

Guthrie and Petty (2000) argue that annual reports are regarded as highly useful sources of information because managers of companies commonly signal what is important through this reporting mechanism. The annual report is a vital instrument designed to tell the story of a company, its objectives, where the company succeeded or failed and what the company intends to do in the future (Simpson, 1997). Annual reports generally comprise quantitative information, narratives, photographs and graphs (Stanton & Stanton, 2002). In Australia, Section 299A of the *Corporations Act 2001* requires firms to disclose a review of operations, details of significant changes to the company's business and any developments in the operations relevant to future years, which can also include information about intangibles. As regularly practised, the statutorily required financial statements are usually placed in a rear

section, and a larger up-front section normally contains non-statutory matters (Stanton & Stanton, 2002) and firms generally utilise narrative or unaudited sections such as the Chairman's statement, CEO review and other additional sections to disclose voluntary information (Meek, Roberts, & Gray, 1995).

The fund-raising provisions of the *Corporations Act 2001* aim to balance the need for investor protection against the need to facilitate an efficient and credible capital market by requiring full and accurate disclosure of relevant information by the company issuing securities (Lipton et al., 2010). As a general rule, a prospectus requires disclosure of all information that investors and their professional advisers would reasonably require to make an informed investment decision. This general requirement affords managers wide discretion in featuring information relevant to investment decisions. A prospectus is generally more forward-orientated than an annual report and it gives companies opportunities to include current information. Despite the broad latitude enjoyed by firms, the *Corporations Act* also requires that information is presented in a clear, concise manner and that a prospectus does not contain misleading or deceptive information because criminal and personal liability are imposed on the various people involved in preparing the document should the requirements be breached.

Examining the content of prospectuses, Bukh, Nielsen, Gormsen, and Mouritsen (2005) report that a prospectus contains intangibles information regarding market development and earnings, strategic direction and intentions of a firm such as patents, project developments and information on employees. Cordazzo (2007) also reports that prospectuses contain intangibles information such as mission and strategy, human resources, customer and supplier relationships. Despite wide acknowledgement that the level of information asymmetry is high between issuing firms and potential investors (Jones, 2007; Gerpott, Thomas, & Hoffman, 2008), very few studies have addressed the intangibles disclosure practices of listed firms during capital-raising.

With regard to criticisms relating to current financial reporting framework, the use of annual reports in this study allows for further investigation on how listed companies signal intangibles information to overcome the limitations of the financial statements. It is also expected that firms will signal intangibles information in prospectuses.

Prior research indicates that there is a 'variety' of intangibles information disclosed by companies to signal important information and it has been captured and measured through various intangibles items (Guthrie & Petty, 2000; Bukh et al., 2005). The 'extent' of disclosure refers to the total number of disclosures obtained by counting the frequency of each occurrence of each intangible item that appears in annual reports and prospectuses.

For the purpose of this study, the intensity of disclosure is developed to measure the degree of intensity or strength of intangibles information. Intensity of disclosure is concerned with the way firms emphasise information in order to capture a reader's attention, particularly to notice the intangibles information featured in the documents. Consistent with Beattie and Jones (1992), Unerman (2000) and Davison and Skerrat (2007), visual representations are regarded as more intense communication tools compared to textual disclosures. For example, Unerman (2000) claims that pictures are sometimes a more influential tool than narrative for stakeholders who do not have time or inclination to read every word because they sometimes just flick through the annual reports, looking only at the pictures. Thus, any disclosures in visual forms such as graphs, diagrams, tables, pictures and photographs are regarded as superior to information presented in textual form and, therefore, considered to convey stronger and more intense signals. Further, quantitative disclosures represent more intense signals compared to qualitative disclosures because they are more objective and informative (Al-Tuwaijri, Christensen, & Hughes, 2004). Firms may also emphasise certain information provided by prominent location/positioning of information, use of special characters and/or more emphatic types of font (Brennan et al., 2009). Repetition of information is also considered as presentation emphasis to aid the memory of readers (Davison, 2008). These techniques, when combined, indicate the strength of intangibles information conveyed by firms. Stronger signals are presumably better at informing readers and ensuring that the readers are more engaged with the information.

METHODOLOGY

Content Analysis and Intangibles Classification Index

Content analysis is used to collect and analyse data on the voluntary disclosure in the annual reports and the prospectuses. It is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use. As a technique, this methodology seeks to determine the patterns in the

presentation of data and their meanings in a systematic, objective and reliable analysis (Krippendorf, 2004). According to Gray, Kouhy, and Lavers (1995), the use of content analysis either demands or, at a minimum, implies strongly, that the categories of analysis are derived by reference to shared meanings.

A disclosure index is used to capture the variety, extent and intensity of disclosure as this tool has been used to quantify the amount of intangibles information included in the annual reports and the prospectuses (Guthrie & Petty, 2000; Bozzolan, Favotto, & Ricceri, 2003; Bukh et al., 2005). To bring analytical rigour to the index, a review of relevant literature is conducted to ensure that the categories selected for the study are able to capture intangibles information that the present study intended to capture. This allows for a greater variation and understanding of intangibles disclosure (Li, Pike, & Haniffa, 2008). Prior studies generally utilised 22–25 items in the intangibles classification index (Guthrie & Petty, 2000) and some studies constructed as much as 78 items (Bukh et al., 2005). Milne and Adler (1999) argue that too few coding categories might increase the likelihood of random agreement in coding decision. This might result in an over-estimation of the measures, which might also increase coding errors. Similarly, too many items might also increase coding complexity (Beattie & Thomson, 2007). As a result of the review, frameworks based on Lev's (2001) Value Chain Scoreboard and Guthrie and Petty's (2000) were utilised and modified to capture intangibles information, which resulted in 24-items disclosure index across three categories (see Table 1).

Coding and Scoring Procedures

Each sentence and visual that contains intangibles information is identified in annual reports and prospectuses of the sample companies. Each identified item is coded and scored using a dichotomous scale, which means a company receives a score of '1' if it voluntarily disclosed intangibles information based on the 24-items classification and '0' if the item is not disclosed. The overall score indicates the variety of items mentioned in the reports and the maximum possible score for each company is 24.

The extent of disclosure is measured by counting the number of sentences for textual disclosures and captions/titles/rows for visual disclosures for each intangibles disclosure found in the annual reports and prospectuses. To arrive at the extent or amount of disclosure for each company, the frequencies of occurrence are

aggregated. Therefore, a higher number of disclosures mean a higher extent of disclosure.

For each coded disclosure, the intensity of information is assessed based on four dimensions: (1) type of disclosure; (2) nature of disclosure; (3) emphasis through presentation effects and (4) emphasis through repetition. First, for type of disclosure, disclosures presented in visual format such as charts, graphs, diagrams and pictures are considered more intense than textual disclosure. Therefore, textual disclosures are coded and scored 0 and visual disclosures are scored 1. Second, quantitative disclosures are regarded as more intense than qualitative disclosures. For each intangibles information identified, qualitative disclosures are scored 0 and quantitative disclosures (both financial and non-financial) are scored 1. Third, information placed in the headline and special characters such as bullet points, numbered lists and bold text indicate more intense information compared to information in the plain text. Therefore, intangibles information presented in bullet points/numbered lists/italic is given the same score of 1 and information presented in plain text is scored 0. Finally, repeated information is regarded as more intense signal than information that is featured once. Intangibles information that appears once is scored 0 and each consecutive repetition is scored 1.

Since visuals do not have natural grammatical sentences like written text, the information is captured based on captions/titles of the visual images. Therefore, for charts, graphs, figures and diagrams; their titles, per sentence, are chosen as the basis for coding and counting. For tables, one row is regarded as one sentence and is chosen as the basis for coding and counting. For pictures and photographs, the caption adjacent to the pictures and its surroundings is regarded as the basis for coding and counting; one caption is equivalent to one sentence. No weight is attached to graphs, tables figures and pictures because one cannot be certain that graphs are better than other types of visual or otherwise. For each coded disclosure, the nature of information is assessed, whether it is qualitative, non-financial quantitative or financial quantitative. The placement of information is also assessed whether it is featured in plain text, in special characters such as bullet points or in the headline. Even there is a slight variation in one or two words, a disclosure was considered to be repeated. The scores for the individual intensity dimension for each company are then totalled to arrive at the overall intensity scores. Thus, the total intensity scores for each company are: visual scores + quantitative scores + headlines and special characters + repetition scores.

To ensure reliability and consistency, a test-retest of the coding was done by the primary author from randomly selected ten annual reports and two prospectuses at a considerable time interval. To ensure consistency, an independent coder was also appointed to code ten percent sample of each group (six annual reports and three prospectuses) (Bozzolan et al., 2003). The discrepancies in the recoding process were resolved by reanalysing the data which resulted in the addition of one sentence to one annual report (0.83% of 119) and a reclassification of one category.

Data

The data consist of the annual reports and prospectuses of the top 200 companies in Australia which had secondary equity capital-raising activities in 2007–2009. The final sample for the study consists of 30 fund-raiser firms with 12 companies in 2007; 7 companies in 2008 and 11 companies in 2009. The annual reports and prospectuses of these firms were downloaded from Aspect Huntley DatAnalysis database.

With regards to annual reports, this study limits the analysis only to narrative sections that are most likely to contain voluntary intangibles information such as: cover and back pages; company highlights; chairman's statement; CEO review or similar; and community and other social responsibility sections. For prospectuses, only voluntary information is considered and information that is subject to regulation is excluded from the analysis. Therefore, the analysis of the prospectuses covers information about: the company; investment highlights; effects of the offerings; operating and financial review; management discussion and analysis and chairman's letter.

FINDINGS

Table 1 presents the number of disclosures found in annual reports and prospectuses for the three-year period where annual reports recorded a higher frequency score compared to prospectuses. As indicated in Table 1, the most reported category for both reports is the discovery and learning phase with *employees* dominating the category. Information about *management philosophy and corporate culture* is also among the most reported items in annual reports. The second most reported intangible in prospectuses was *brand values and reputation*. One possible explanation of the high level of reporting of this item is that firms like to remind their

investors of the performance and reputation of the firm. Another reason could be that corporate brand and favourable reputation is one of the important factors in influencing investors when making investment decisions.

Table 1 also shows the total disclosures over the number of pages surveyed in both documents which indicates that disclosure (per page) in annual report is higher compared to disclosure (per page) in prospectus. An independent sample *Mann-Whitney U Test* was conducted to assess whether this difference is significant and the result is reported in Table 2.

Table 1
Number of disclosures (extent) of intangibles item in annual reports and prospectuses (n = 30)

Intangible item	Number of disclosures in annual reports	Rank	%	Number of disclosures in prospectuses	Rank	%
Phase 1: Discovery and learning						
Research and development	6	17	0.5	8	13	1.8
Organisational infrastructure/process	70	4	5.9	16	7	3.7
Management philosophy and corporate culture	212	2	17.8	49	3	11.3
Business alliances and joint venture	51	8	4.3	14	9	3.2
Supplier integration	4	21	0.3	0	22	0
Communities of practice	57	6	4.8	2	19	0.5
Spill-over utilisation	3	23	0.3	0	22	0
Employees	322	1	27.0	140	1	32.3
Training and development of employees	57	6	4.8	3	18	0.7
Education of employees	4	21	0.3	10	11	2.3
Work-related knowledge and competencies	34	11	2.9	22	5	5.1
Entrepreneurial spirit	2	24	0.2	1	20	0.2
Total for discovery and learning	***822***			***265***		
Phase 2: Implementation						
Intellectual property (Patents, Trademarks and Copyrights)	6	17	0.5	4	15	0.9
Licensing agreements and contracts	26	12	2.2	21	6	4.8
Know-how	6	17	0.5	4	15	0.9
Internet and online activities	13	14	1.1	0	22	0
Clinical tests, beta tests and pilot tests	6	17	0.5	5	14	1.2
Total for implementation	***57***			***34***		
Phase 3: Commercialisation						
Brand values and reputation	112	3	9.4	63	2	14.5
Distribution channel and marketing	12	16	1.0	9	12	2.1
Customer and customer satisfaction	41	10	3.4	30	4	6.9
Market shares	50	9	4.2	12	10	2.8
Growth prospects and planned initiatives	60	5	5.0	16	7	3.7
Product pipeline dates	24	13	2.0	4	15	0.9
Expected efficiency and savings	13	14	1.1	1	20	0.2
Total for commercialisation	***312***			***135***		
Total disclosures	**1,191**		**100**	**434**		**100**
Total number of pages surveyed	**838**			**903**		
Average disclosure per page	**1.42**			**0.48**		

Table 2 indicates the results concerning the variety and extent of disclosure. As expected, Table 2 shows that there is a difference in the means for the variety of disclosure. To assess the significance of this difference, an independent sample *Mann-Whitney U Test* was performed and the statistical test indicated that at 5% level, the difference between the two documents is significant. Similarly an independent sample *Mann-Whitney U test* indicates that the difference in the means for the extent of disclosure is also statistically significant. For annual reports, only narrative sections were surveyed. For prospectuses, even though the analysis only covered voluntary information, the number of pages surveyed was higher. An independent sample *Mann-Whitney U Test* indicates that the difference in the number of pages surveyed and number of disclosures between both reports is statistically significant at 5% level. This indicates that intangibles disclosure in annual reports were more prevalent in than disclosure in prospectuses.

Table 2
Number of intangible items disclosed (variety), number of disclosures (extent) per annual report and prospectus and number of disclosures per page surveyed (prevalence)

	Variety		**Extent**		**Prevalence**	
	Annual report	**Prospectus**	**Annual report**	**Prospectus**	**Annual report**	**Prospectus**
Mean	8.80	4.17*	39.70	14.43*	1.54	0.68*
Std. Deviation	3.089	2.925	24.80	15.69	0.84	0.77
Min	4	0	7	0	0.29	0.00
Max	14	10	114	57	3.35	3.31

**p = 0.000, two-tailed*

As previously discussed, intensity of disclosure was measured on four dimensions: visual disclosure, quantitative disclosure, emphasis through presentation effects and emphasis through repetition of information. Table 3 presents a summary of the intensity measures for annual reports and prospectus disclosures, both in absolute and relative frequency to total disclosure.

A Mann-Whitney U test indicates that the difference in terms of intensity of disclosure between annual reports and prospectuses of capital-raiser firms based on their absolute scores is statistically significant (Table 4).

To ascertain which intensity measure contributes to the difference between the two documents, a further analysis was conducted. For the intensity measures, absolute scores alone do not necessarily give a true picture of the strength of the signals provided by firms. To attend to this issue, the intensity score for each company was measured in proportion to its extent of disclosure to control for differences in the amount of disclosures each company has to obtain the relative score. This is because two companies with the same absolute intensity score may have vastly different amount of disclosure. For example, a company that recorded 40 counts in the extent of disclosure and scored 10 for its intensity may have its relative intensity score of 0.25. In contrast, a company that recorded 10 counts in the extent of disclosure and also scored 10 for its intensity may receive a relative score of 1, which is higher. Therefore, two set of tests were conducted based on both absolute and relative intensity scores.

Table 3
Number of disclosures in annual reports and prospectuses based on intensity measures

Intensity of information	**Number of disclosures**			
	Annual reports		**Prospectuses**	
	Frequency (number of disclosure)	Relative frequency to total disclosure	Frequency (number of disclosure)	Relative frequency to total disclosure
Visuals				
Titles in graphs/charts	11	0.92%	1	0.2%
Number of rows in tables	73	6.13%	22	5%
Titles in figures/diagrams	5	0.42%	6	1%
Captions in pictures/photographs	204	17%	62	14%
Quantitative				
Quantitative disclosures (non-financial and financial)	276	23%	117	27%
Emphasis through presentation effects				
Positioning, special characters and type of font	296	25%	146	34%
Emphasis though repetition	38	3.19%	24	6%

Table 4

Intensity of intangibles disclosure in annual reports and prospectuses: Absolute and relative scores (Total for all four measures)

	Absolute score		**Relative score**	
	Annual report	**Prospectus**	**Annual report**	**Prospectus**
Mean	33.60	12.60*	0.81	0.72
Std. Deviation	31.27	16.04	0.28	0.61
Min	5	0	0.37	0.00
Max	165	58	1.66	3.00

**p = 0.000, two-tailed*

Tables 5(a), 5(b), 5(c) and 5(d) present the descriptive statistic for each intensity criteria. As indicated in these tables, the differences in some intensity measures are significant while others are insignificant. For visual disclosures and emphasis through repetition, the difference between prospectuses and annual reports remain significant.

Table 5(a)

Intensity scores per annual report and prospectus (visual)

	Absolute scores		**Relative scores**	
	Annual report	**Prospectus**	**Annual report**	**Prospectus**
Mean	9.77	3.00*	0.21	0.14***
Std. deviation	13.03	6.28	0.16	0.20
Min	0	0	0.00	0.00
Max	70	31	0.61	0.63

** p = 0.000; ***p < 0.05*

Table 5(b)

Intensity scores per annual report and prospectus (quantitative)

	Absolute scores		**Relative scores**	
	Annual report	**Prospectus**	**Annual report**	**Prospectus**
Mean	11.30	3.77*	0.26	0.26
Std. deviation	13.64	4.59	0.20	0.23
Min	0	0	0.00	0.00
Max	67	16	1.00	1.00

**p = 0.000*

Table 5(c)
Intensity scores per annual report and prospectus (emphasis through positioning)

	Absolute scores		**Relative scores**	
	Annual report	**Prospectus**	**Annual report**	**Prospectus**
Mean	9.86	4.8**	0.25	0.24
Std. deviation	9.43	6.85	0.15	0.28
Min	0	0	0.00	0.00
Max	38	21	0.68	1.00

***p < 0.01*

Table 5(d)
Intensity scores per annual report and prospectus (emphasis through repetition)

	Absolute scores		**Relative scores**	
	Annual report	**Prospectus**	**Annual report**	**Prospectus**
Mean	1.50	0.80**	0.04	0.03***
Std. deviation	1.48	1.67	0.04	0.07
Min	0	0	0.00	0.00
Max	4	6	0.14	0.24

***p < 0.01; ***p < 0.05*

Further analysis of prospectuses also revealed that firms tend to repeat similar intangibles information that was previously disclosed in prior year's annual report. For example, Amcor Limited disclosed the same information about market share in both annual report and prospectus:

> Amcor Flexibles is a market leader and one of the world's largest
> Suppliers of flexible and tobacco packaging.
>
> (Amcor Limited Annual Report, 2008, p. 9)

> Flexibles is one of the world's largest suppliers of flexible packaging.
>
> (Amcor Limited Prospectus, 2009, p. 33)

Consistent with signalling theory, not only firms have signalled intangibles information in their annual reports prior to capital-raising but also during the registration of the capital-raising. Also, the study provides an understanding of how the information is disclosed by analysing its intensity. In order to make intangibles visible, firms approach the task of producing annual reports and prospectuses by emphasising the existence and potential of intangibles through pictures and repeated information presumably to ensure that investors are better informed and more engaged with the information.

CONCLUSION AND IMPLICATIONS

As far as the present study is concerned, there appears to be no published literature that compares the disclosure of information of fund-raiser firms' annual reports and their prospectuses. From the analysis, in general, the disclosure in narrative sections of annual reports contains pictures, images and information in special characters besides information in plain text. One interesting observation is that even though the variety and extent of disclosure is lower in the prospectuses, some firms disclose voluntary intangibles information by featuring the information in visual forms, full of coloured images and presented in special characters such as numbered lists and bullet points, resembling the narrative sections in annual reports. Besides, only a few firms prepare the prospectuses featuring only mandatory information, in just plain text.

The disclosure in prospectuses was compared with the disclosure in the narrative sections in annual reports. We found that the level of disclosure in prospectuses is much lower than the disclosure in the narrative sections of the annual reports. This result suggests that since the prospectus is a regulated document, perhaps fund-raiser firms are limiting the amount of disclosure to prevent the disclosure of misleading information. That is, firms would have taken extra care in deciding what information should be disclosed in their prospectuses. We argued that disclosure in prospectuses is subject to more stringent reporting and disclosure obligations as compared to narrative sections in annual reports. With respect to narrative sections in annual reports, managers enjoy wider discretion in disclosing voluntary information because narrative sections in annual reports are largely unregulated and unaudited. As a result, more intangibles information could be observed in annual reports than in the prospectuses and this could explain the significant difference of intangibles disclosure in both reports.

Even though prior studies claim that prospectuses seem to address more directly the role of intangibles as a basis for competitive advantage because it contains more current information, we observed less disclosure in prospectuses as compared to annual reports. Perhaps one important implication for policy makers is to adopt and regulate at least how and what intangibles information to be disclosed in corporate reports such as prospectuses and annual reports in order to address the issue of inconsistencies in reporting.

There are several limitations inherent in this study that have been identified. First, the reliability of the coder was only assessed using a test-retest procedure and

any discrepancies between the coders were resolved by analysing the documents further. Therefore, future research could incorporate the Krippendorff 's (2004) alpha test to ensure a high order of reproducibility. Next, this research is also restricted to only disclosures in annual reports and prospectuses, ignoring other ways of information releases such as press release and websites. Thus, future studies could explore the use of corporate websites in disclosing voluntary information.

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