Australian sell-side analysts’ use of intellectual capital information

Abstract

**Purpose** - This paper explores what types of intellectual capital (IC) information is referred to by sell-side analysts in their *initiating coverage reports* and how this information is embedded in analysts’ valuation decision-making processes and justification of forecasts, valuations and recommendations.

**Design/methodology/approach** - Empirical data is collected through the content analysis of 64 analysts’ *initiating coverage reports* written on an equivalent number of companies included in the S&P/ASX 300 index. The content analysis is based on a categorisation scheme consisting of external, internal and human capital. The data analysis has benefited from both qualitative and quantitative attributes of content analysis.

**Findings** - This study finds that sell-side analysts place greater importance on particular types of IC information over others, and several types of IC information are rarely or never used. At the same time IC plays a varying and broader role in analyst reports. IC is used to: (1) provide background information to understand the firm and its operations; (2) build the firm value creation story; (3) explain the strategies and methods of realising the value potential; (4) generate forecasts and valuations; (5) justify forecasts, valuations and recommendations; and (6) promote the firm as a good investment. The paper also reports: (1) inconsistency in the use of IC information; (2) lack of systematic analysis of IC information; and (3) an absence of any explicit references to key terminology used in the academic literature concerning IC.

**Practical implications** - The findings of this study have implications for policy makers and professional associations in developing models and guidelines for reporting as well as analysing IC information and in re-evaluating current initiatives. Also, the findings may help curriculum development in organisations providing training and education for financial analysts and in planning continuous professional development programs for analysts.

**Originality/value** - The paper addresses several unanswered questions on the importance of types of IC information to the capital market and the role of IC within the context of analysts’ valuation decision-making processes.

**Key words** - Analyst report, content analysis, intellectual capital, sell-side analyst, value analysis

**Paper type** – Research paper
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1 Introduction

Accounting for intellectual capital (IC), which is commonly interpreted as intangible determinants of future firm value, is considered important as it provides a view of firm value creation when combined with traditional financial reporting (Campbell and Rahman, 2009; Peppard and Rylander, 2001). Given that IC encompasses future value creation potential and capital market valuations are essentially forward-looking, capital market actors ought to use IC information in their valuations and investment decision making (Thomas, 2003). Despite the importance of IC information to the capital markets, corporate disclosure practices in this regard have been less than optimal and widely criticised.

A review of IC disclosure literature finds that there is a lack of systematic and concerted effort to reporting IC and the disclosure levels are low worldwide (Abeysekera and Guthrie, 2005; Brennan, 2001; Guthrie and Petty, 2000; Whiting and Miller, 2008). Investors may need to spend considerable amount of time and effort to collect IC information, due to it not been reported in a consistent manner and been dispersed across a variety of corporate reporting media (Striukova et al., 2008). In this context, sell-side analysts (hereafter analysts) as information intermediaries become an important information source to investors.

Analysts work for brokerage houses or large investment-banking firms and produce research reports that are available to their clients (Flöstrand, 2006; Kothari, 2001; Schipper, 1991). Their main task is to conduct company research, where they search and gather both financial and non-financial information (NFI) on a company from public and private channels; analyse and interpret this information using models and heuristics; forecast firms’ future earnings, cash flows and growth rates; and issue reports on companies with a recommendation to buy, hold or sell the stock (Gniewosz, 1990). Both retail and institutional investors use the services of analysts (Groysberg et al., 2008). Although analyst reports may not include all the information used by the analyst writing them, it will contain the most relevant information on drivers and destroyers of future firm value (Govindarajan, 1980; Orens and Lybaert, 2007). As a result there has been a growing research interest in the content of analyst
reports (e.g., Breton and Taffler, 2001; Fogarty and Rogers, 2005; Previts et al., 1994; Rogers and Grant, 1997).

The purpose of this paper is to explore what types of IC information is referred to by analysts in their *initiating coverage reports* and how this information is embedded in analysts’ valuation decision-making processes and justification of forecasts, valuations and recommendations. In doing so, this paper contributes to the ongoing debate on the paradoxical nature of the capital markets’ appreciation of IC, which was also the theme of a special issue of Accounting Auditing and Accountability Journal in 2003 (Bukh, 2003; Mouritsen, 2003).

To this effect, the current paper examines the extent, type and context of IC information used in analyst reports. The findings reported in this paper enable to assess analysts’ contribution as a capital market intermediary in processing and disseminating IC information for the benefit of other capital market participants. At the same time, corporate managers and policy makers may benefit from an understanding of how IC information influences analysts’ forecasts, valuations and recommendations in order to prescribe the types of decision useful corporate information ought to be provided to the capital market (Nielsen, 2008). Organisations providing training and education for financial analysts may also benefit by knowing the IC knowledge gap of analysts.

The remainder of this paper is structured as follows. Section 2 provides a review of the relevant literature. This is followed by a description of the research method adopted in this study in Section 3. Section 4 presents the results of the content analysis, which are discussed in Section 5. Section 6 addresses the implications of the findings of this study and concludes the paper.

2 Literature review

Researchers for decades have investigated the importance of types of NFI for stock valuation using various research methods. A review of this literature finds that many types of NFI items are perceived as important by analysts (Abhayawansa and Guthrie, 2010). In a recent survey Orens and Lybaert (2007) found that analysts are most concerned with NFI such as ‘broad objectives and strategy’, ‘forward-looking
information’, ‘reasons for changes in the financial, operating and performance related data’, ‘scope and description of the business’, and ‘properties and impact of industry structure on a company’. It is found that NFI is used to assess both short-term (SRI International, 1987), and to a greater extent, long-term (Chugh and Meador, 1984; Dempsey and Gatti, 1997) performance of stocks. IC information is prevalent among the NFI items that are identified as useful to analysts in these studies.

There have been several previous studies investigating the types of information included in analyst reports. While some researchers have shown an interest in understanding the types of NFI, in general, communicated by analysts in reports produced (Flöstrand and Ström, 2006; Low and Siesfeld, 1998; Nielsen, 2004; Nielsen, 2008; Orens and Lybaert, 2007; Rogers and Grant, 1997), others have focussed on intangibles or IC information in specific (Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005; García-Meca and Martínez, 2007).

Previts et al. (1994) content analysed analyst reports to identify the types of information on which analysts base investment recommendations. They found that analysts referred to NFI, such as ‘market and competition’, ‘industry and economic conditions’, ‘history of the company and its products’, ‘pricing’, ‘customers’, ‘suppliers’, ‘production capabilities’, ‘technologies’, ‘marketing and distribution systems’, ‘R&D expenditure’, ‘quality of management’, ‘organisational structure’, ‘corporate and management strategy’, ‘anticipated changes on future earnings’, and ‘major projects’. Similarly, Rogers and Grant (1997) observed that substantial amount of NFI referred to in analyst reports relate to descriptions about the firm, products and the environment in which it operated. Fogarty and Rogers (2005) and Breton and Taffler (2001) found that information about company management and strategy is mainly emphasised in analyst reports. The latter study found that the types of NFI used in analyst reports significantly differ by investment recommendation suggesting that analysts selectively use NFI in their reports. Looking at the time orientation of NFI in analyst reports, Flöstrand and Ström (2006) found that analysts use more forward-looking compared to historical NFI.

Arvidsson (2003) was the first to investigate IC information in analyst reports. Using a disclosure index consisting of 81 IC items, she examined the extent of human capital, relational capital, organisational capital, R&D and environmental/social
information disclosed in analyst reports of knowledge-intensive firms in Denmark, Finland, Norway and Sweden. Similarly, García-Meca (2005) studied IC information in analyst reports written on Spanish listed companies. Her analysis was based on an IC classification framework consisting of customers, human, organisational, strategy, technology, and processes. Extending this work, García-Meca and Martínez (2007) investigated determinants of IC disclosure in a larger sample of analysts’ results reports and company reports. Having a slightly different focus, Flöstrand (2006) investigated the use of IC indicators (in contrast to IC references)\(^1\) in analysts’ initiating coverage reports in the USA. Orens and Lybaert’s (2007) point of departure from other studies is found in the investigation of the relative importance of IC vis-à-vis other NFI in analysts’ company reports.

The focus of these studies is predominantly on measuring the extent to which different categories of IC is cited in analyst reports to assess the importance analysts attach to them. However, analysts not only disseminate information relevant to their forecasts and recommendations, but also attempt to convince the readers about their opinions and justify them with arguments (e.g., Nielsen, 2008; Previts et al., 1994; Rogers and Grant, 1997). For instance, Dannhauser (2009) contends how information is communicated (i.e., how, when, what, to whom, and by whom) has implications on market’s valuation of a firm, despite what is communicated. Researchers should acknowledge analyst reports as a communication medium through which analysts may attempt to maximise company value. The portrayal of analysts’ work products as optimistically biased (e.g., Das et al., 1998; Dechow et al., 2000; Dugar and Nathan, 1995; Fogarty and Rogers, 2005; Lin and McNichols, 1998) and the amenability of IC information in furtherance of analysts’ agenda further validates the importance of adopting this perspective in research involving analyst reports. This is a crucial point of departure of this paper from the prior literature.

In addition, this study differs from prior research in at least three important ways. First, this study concerns analyst reports on Australian companies. Prior research have been conducted in an American (Flöstrand, 2006) or a Continental European setting (e.g., Arvidsson, 2003; García-Meca, 2005; García-Meca and Martínez, 2007; Orens and Lybaert, 2007). Australian studies on the utilisation of information, let alone IC information, by analysts are limited. Investigation of the use of IC
information by analysts in different country settings is particularly important due to several reasons. It is likely that the use of IC information differs by country, as country differences in the use of NFI by analysts have been observed (e.g., Arnold et al., 1984; Belkaoui et al., 1977; Olbert, 1994; Pike et al., 1993). Also, the extent of IC information available to analysts differs by country (Gray, 1988; Robb et al., 2001). Similarly, it has been argued that the perceived demand to provide NFI in analyst reports differs across cultures (Adhikari et al., 1998) and analysts’ reliance on different information sources is influenced by the strength of a country’s equity market (Clatworthy and Jones, 2008).

Second, this paper provides a detailed analysis of IC references in initiating coverage reports, which are considered as the most comprehensive type of analyst report in terms of both length and content. They provide greater opportunity for analysts to elaborate on the judgements, forecasts, valuations and recommendation made by them. Third is a methodological difference where the incidence of IC information is analysed so that the importance of an IC theme/category is measured by its frequency of occurrence across the sample. In contrast prior studies measure the importance of an IC theme/category based on the number of analyst reports in which that theme/category is present. Accordingly analyst reports are not scrutinised for every occurrence of an IC theme/category, once that it is found to be present. This approach treats a report as having one occurrence of a particular IC theme/category, as equal to one having many occurrences of that IC category (Milne and Adler, 1999). As a result, the full extent of IC information used in analyst reports has not been investigated previously.

3 Method

3.1 Content analysis

Empirical data is collected through content analysis of analysts’ initiating coverage reports. Content analysis involves both qualitative and quantitative research methods (Holsti, 1969; Krippendorff, 2004). Holsti (1969, p.11) notes that “qualitative and quantitative are not dichotomous attributes, but fall along a continuum” and these aspects complement each other. From a quantitative perspective, this study uses the frequency with which an IC category/subcategory is cited in analyst reports as a proxy for its importance to analysts. Qualitative attributes of content analysis enables
investigation of how a particular phenomenon being investigated is represented in
texts (Krippendorff, 2004). In other words, excerpts from analyst reports are used to
interpret the results and explore the manner in which IC information is used by
analysts.

Content analysis predominantly involves codifying recording units into predefined
content categories. The categorisation scheme used in this study is based on the
widely used tripartite taxonomy of IC, where IC is broadly classified into external
(relational), human and internal (structural) capital (Sveiby, 1997). When developing
IC subcategories for each of these categories, an extensive review of the literature was
undertaken to investigate how IC categories are conceptualised. This review resulted
in a list of over 320 IC concepts and indicators (Abhayawansa, 2010). IC
subcategories to which these concepts and indicators could be assigned were explored
across a list of IC subcategories found in Guthrie and Petty’s (2000) taxonomy and its
derivations. Whenever a contradiction between studies was found in relation to
categorising a particular IC item, then it was categorised according to the way similar
items are generally categorised. New subcategories were created when the existing
subcategories were inadequate. Sometimes existing categories were expanded to
accommodate certain IC information, especially when the underlying concepts were
too fragile to have operational definitions constructed or boundaries demarcated.
Holsti (1969, p.104) states that “moving back and forth from theory to data, testing
the usefulness of tentative categories, and then modifying them in the light of the
data”, is a suitable approach when a standard categorisation scheme for the data at
hand is non-existent.

Figure 1 presents the IC categorisation scheme used in this study. It consists of 34 IC
subcategories that are divided between external capital (10), human capital (11) and
internal capital (13). Business collaborations, employees (other), skills and
capabilities, remuneration and incentive schemes and work experience subcategories
were further subcategorised in order to enable a better understanding of the
information coded into them.

3.2 Recording and measurement unit

Determining a recording unit concerns the unit of text to be coded (Holsti, 1969). For
narrative content it was decided to use text units as the recording unit in this study. A
text unit is a single assertion about some subject, which by definition is not a grammatical construct. As text units are not constrained by grammatical rules, when used as a recording unit in content analysis, it overcomes coding dilemmas associated with multiple IC themes being manifested in a given sentence or paragraph. Following Beattie and Thomson (2007, p.142), a text unit is defined in this study as a group of words or part of a sentence containing a “single piece of information that [is] meaningful in its own right”.

Concentrating on narrative content alone is unlikely to provide valid results as the important role played by tables, graphs, charts and figures and sometimes pictures in analyst reports is ignored (Steenkamp, 2007). Hence, visuals are coded in this study in contrast to prior content analytic studies on analyst reports that have generally excluded visuals (e.g., Breton and Taffler, 2001; Nielsen, 2008). Information items are used as the recording unit for analysing visuals and are defined in the same way as text units.

The frequency of disclosure is measured by the instances of IC related text units/information items by counting the number of instances each IC subcategory is manifested in them. Each appearance of a text unit/information item representing an IC category, in each report, is assigned a score of one in the respective content category.

NVivo (Version 7) software program is used to code the IC related text units/information items into IC categories/subcategories, which are represented by nodes. This software enables node reports to be generated showing all IC related text units/information items assigned to each node. This helps in qualitative analysis of data. Also, the node report enables wrongly coded recording units to be easily identified so that corrections can be made by ‘uncoding’ and ‘recoding’ them into the appropriate node.

3.3 Coding instrument

The data collection process is systematised and made transparent by using a coding instrument. Following Boyatzis’ (1998) recommendations for developing a coding instrument, the coding instrument used in this study comprise operational definitions for each IC category/subcategory, coding rules for determining whether a recording
unit falls within a given category/subcategory, and examples of various types of recording units that can and cannot be classified into a category/subcategory. Clear operational definitions and coding rules that are capable of delineating the boundaries of content categories in an exhaustive and mutually exclusive fashion minimise confusion, vagueness, and ambiguity in the coding process, and allow replication by others (Gray et al., 1995; Kolbe and Burnett, 1991; Krippendorff, 2004).

A sample of initiating overage analyst reports were test coded in order to validate the coding instrument before commencing actual coding. The coding instrument was continuously modified as the test coding progressed in order to rectify the coding problems encountered. This resulted in some IC subcategories listed in the coding instrument being relabelled and the scope of some IC subcategories being expanded so that they converge better with the type of IC information referred to in analyst reports. The coding instrument modified upon test coding was used in a pilot study to assess its reliability. In the pilot study, two coders independently coded a sample of randomly selected sentences and visuals from analyst reports.

3.4 Sample of analyst reports

Initiating coverage analyst reports for the sample are drawn from a sample of 64 companies included in the S&P/ASX 300 index. It includes the largest and the most liquid and tradeable stocks in the Australian market. S&P/ASX 300 covers more than 80 per cent of the Australian equity market by capitalisation (Standard & Poor's, 2007).

The sample of companies was stratified by eight Global Industry Classification System (GICS®) sectors in order to be representative of companies with varying intensity of reliance on knowledge resources and IC value drivers. Holsti (1969) argues that stratification is a suitable sampling technique for content analysis based studies when a large class of sources contain dissimilar sub-classes. As analyst reports are not homogenous across companies from different sectors due to sector specific IC value drivers, selection of analyst reports on companies from different sectors enhances the sampling validity. GICS® sectors represented in the sample include consumer discretionary, consumer staples, financial, information technology, healthcare, real estate investment trusts (REIT), materials and utilities.
The *initiating coverage reports* for the sample were primarily obtained from the OneSource Global Business Browser database. The database was searched for *initiating coverage reports* for the eight largest companies (by market capitalisation) included in the *S&P/ASX 300 index* as at 05 June 2008 for each of the 8 selected GICS® sectors. Only the *initiating coverage reports* written between 01 July 2003 and 05 June 2008 were selected. When an *initiating coverage report* on a selected company was not available a report was sourced for the next largest company, within the set parameters. Analyst reports were also obtained by directly contacting analysts covering the relevant companies, company websites, and purchasing through Thomson Analytics database when this process did not provide the required number of analyst reports to complete the sector sub-samples.

However, due to the limited availability of *initiating coverage reports* for S&P/ASX 300 companies that also satisfy the selection criteria, one *initiating coverage report* was sourced for a S&P/ASX 500 company (as at 05 June 2008) to complete the quota of eight analyst reports for the information technology sector. Only seven *initiating coverage reports* could be sourced for the consumer staples sector sub-sample; and as a result, the sub-sample for the materials sector was boosted to nine *initiating coverage reports* to make up a total sample size of 64 reports. Size of the total sample was limited to this number due to the limited representation of S&P/ASX 300 companies in certain GICS® sectors, limited analyst coverage of those companies and the excessive demand on researchers time due to the labour intensiveness of the coding process.

In total, 15 stockbroking firms are represented in the sample and the majority of the reports are issued by some of the world’s biggest investment banks, such as ABN-AMRO, Citigroup and Deutsche Bank.

### 3.5 Format of initiating coverage analyst reports

*Initiating coverage reports* are broadly similar in format regardless of the brokerage firm issuing them. The first page contains a summary of the main issues discussed subsequently in the body of the report and generally includes three key indicators: an earnings forecast, a stock recommendation, and a price target (Asquith *et al.*, 2005). Name of the brokerage firm, names and contact details of the analysts who have written the report, date of the report, summary of stock data and key indicators about
the company are also located in the first page.

The body of the analyst report contains descriptions about the company and industry, quantitative and qualitative analyses and arguments supporting the key indicators. Appendices, summary tables of financial data, regulatory disclosures, investment bank’s disclaimer and other disclosures explaining the recommendation structure are found at the end of report. In this paper, only the body of the report, appendices and footnotes are analysed. No distinction is made among IC information referred to in the body of the report, appendices or footnotes in the coding process.

3.6 Reliability

Two courses of action were taken to ensure reliability in terms of stability and reproducibility of content analysis results. Stability is the extent to which a coding procedure yields the same results on repeated trials over time and reproducibility is the extent to which multiple coders, working independently of each other, obtain consistent results by using the same (or different but functionally equivalent) coding instrument on the same text (Krippendorff, 2004). First, a well-specified coding instrument was developed. Steps were taken to ensure that the coding instrument contained relevant content categories, and detailed instructions and definitions for including (excluding) information into (from) content categories. Second, the coder underwent a significant period of training where he coded 52 analyst reports before commencing the data collection in the main study.

Evidence of stability of the results in this study can be established by the high intra-coder reliability achieved when a sub-sample of analyst reports was coded 3 months after the main study by the original coder. A Krippendorf’s alph of 0.864 was achieved for coding sentences as either containing IC or not and 0.908 for coding recording units containing IC into the relevant IC subcategories. Reproducibility of results of this study is evidenced by the high inter-coder reliability coefficients for the coding done in the pilot study by two coders. Inter-coder reliability calculated using Krippendorf’s alpha was satisfactory at 0.794 for coding sentences and 0.938 for coding recording units containing IC.
4 Results

The following Table 1 highlights the descriptive statistics of IC use in analyst reports for the total sample.

<Insert Table 1 here>

According to this table, on average, 9.97 IC subcategories (from 34) are referred to in an analyst report, and an average of 55.73 references to IC is found per report. However, the number of IC references per analyst report varies greatly from a maximum of 273 to a minimum of zero, as one analyst report did not contain any IC information. The maximum number of IC subcategories referred to in an analyst report is nineteen.

Descriptive statistics of IC categories and subcategories are reported in the following Table 2.

<Insert Table 2 here>

As shown in the Panel A of this table, external capital category accounts for 45 per cent of IC information used in analyst reports. It is also the IC category used in the most number of analyst reports. Human capital (37 per cent) and internal capital (18 per cent) information are used by analysts less frequently than external capital. Whilst the use of human capital information is greater than internal capital information, the latter is found in more analyst reports than the former.

External capital

Panel B of Table 2 shows that several external capital subcategories contain high levels of references relative to total IC references. After ‘work experience’ and ‘employees (other)’, which are the two most referred to IC subcategories, the next five most used IC subcategories relate to external capital. ‘Business collaborations’ (293 references) is the most referred to external capital subcategory followed closely by ‘brands’ (272 references). ‘Business collaborations’ is the most commonly used IC subcategory having being used in 48 analyst reports.

Business collaborations are an important growth strategy for most companies, and they are commonplace among large listed firms (Lamont and Anderson, 1985).
Managers embarking on such collaborations often justify them based on the impact on future profits and cash flows. The financial implications of business collaborations are often mentioned by analysts, as depicted by the following analyst report extracts:

The acquisition of Coles is expected to result in EPS decline of -3.2% in FY08, but this is expected to reverse in FY09 with EPS growth of 7.9% and 8.6% the following year (Wesfarmers Limited).

Management expect to extract net synergies of $40-50M FY06E (run-rate of ~$95M at year end); $115M FY07E and $145M by FY08E (Fosters Group Limited).

Table 3 shows the frequency distribution of references to the five types of business collaborations investigated in this study. ‘Mergers and acquisitions’ are most frequently mentioned, accounting for 51 per cent of references to this subcategory. ‘Mergers and acquisitions’ are also mentioned in almost half the sample analyst reports. Extent of IC references to ‘joint ventures’, ‘strategic alliances’, and ‘subsidiaries and associate companies’ varies from 14 per cent to 18 per cent of total IC references, while only one analyst report on a health care company mentioned IC related to private-public partnerships.

<Insert Table 3 here>

Analysts generally argue from the point of view that mergers and acquisitions are an important, and sometimes the only, way to achieve growth when scope for organic growth through market expansion is limited:

Spark Infrastructure intends to seek growth both organically and via and acquisitions. Organic growth will be limited given load growth rates across the networks (between 1-2.5% p.a.), however Spark will seek opportunities in the global utilities infrastructure market (Spark Infrastructure Limited).

With the rollout of unlisted property funds being slower than Management and the market had anticipated at listing, the acquisition of ICA has provided a significant boost for VPG’s funds management operations. Through ICA, VPG has improved the diversification of its product offering and acquired both an experienced management team and a new investor base (Valad Property Group).
Also, mergers and acquisitions are expected to provide important synergistic benefits in terms of cost reduction and revenue generation for the company. Hence, analysts estimate potential synergies and include it in their forecasts:

On the positive side, the company’s integration of the Jupiters and NSW TAB businesses have exceeded expectations, with synergies from the Jupiters acquisition upgraded from A$28m to A$53m (Tabcorp Holdings Limited).

Similarly, information on joint ventures, strategic alliances, subsidiaries and associate companies are included as they provide further scope for expansion and additional capabilities to companies:

The recent joint venture established with Australian retailer, Beachculture, provides BBG with a larger retail footprint in the specialised airport-based retail market (Billabong International Limited).

As well as using multi-managers to help spread the investment choices for investors, CGF has entered into alliances with other investment managers to on-sell its products (Challenger Financial Services Group Limited).

Turning to the ‘brands’ subcategory, despite it having a high frequency of references, only seventeen analyst reports refer to it. A further examination finds a sector effect in relation to the use of information on ‘brands’, where only a few sectors account for the majority of references and some sectors have no references to the ‘brands’ subcategory. ‘Brands’ related references are highly skewed towards consumer discretionary and consumer staples sectors, indicating the importance of branding in valuing companies belonging to those sectors.

Since companies with reputed brands are better positioned to capture and retain market share than companies with less reputed or unknown brands, analysts tend to use ‘brands’ related information, when available, to justify their forecasts and valuations:

We forecast strong double digit profit growth for the next five years as BBG’s newer brands increase distribution penetration and new product lines are launched (Billabong International Limited).
FGL aims to leverage and improve returns from its global Foster’s Beer brand (Foster’s Group Limited).

Information on ‘market share’ (235 references: 34 reports), ‘customers (other)’ (223 references: 39 reports), and ‘financial relations’ (196 references: 35 reports) included in the external capital category are frequently used by analysts, and are commonly found in their reports. The former two subcategories are interrelated. The ‘customers’ subcategory is a flow concept, which includes references relating to the importance of end customers to a firm and its customer focus. In contrast, the ‘market share’ subcategory is a stock concept, which encompasses references to the extent and changes in the market share of a company. Analysts tend to use these two external capital subcategories to convey the stability and growth potential of a company, or sometimes lack thereof:

CCL aims to leverage its customer and distribution platforms to grow the food division revenues in the short-term (Coca-Cola Amatil Limited).

It is a major supplier to the $4 billion convenience or route trade and its customers include Shell, Mobil, BR, Caltex, 7-Eleven and independent operators (Metcash Limited).

With its clear leadership in the multi-channel pay-TV market in Italy, we believe Sky Italia is positioned to deliver strong growth as Italians continue to demonstrate a willingness to pay for subscription television, and soccer programming in particular (News Corporation Ltd).

One plausible explanation for the use of ‘market share’ information is its ability to be linked to analyst’s forecasts:

We value Crown’s businesses at the upper end of this range given the strong forecast earnings growth of Burswood and the strong market position of Crown Melbourne [emphasis added] (Crown Limited).

We forecast EBITDA [Earnings Before Interest, Taxes, Depreciation and Amortization] growth in the order of 10.5% pa over FY07-09, driven by increasing efficiencies in this division from the control of costs and benefits from increased private insurance premiums, due to HSP’s expanding market power [emphasis added] (Healthscope Limited).
Alternatively, by commentating on a company’s market leadership/dominance or the high proportion of a market being controlled, analysts are able to justify their optimistic forecasts.

Looking at the ‘financial relations’ subcategory, many references to this subcategory comprise names and shareholdings of investors, including employee shareholdings, as illustrated by the following excerpts:

TIM works with around 15,000 grower investors, about 30% of which have invested more than once (Timbercorp Limited).

[…] Schroders is traditionally a long-term and conservative investor (Australian Pharmaceutical Industries Limited).

Following the recent sell-down, BNB staff ownership is 47% and while further stock comes out of escrow in the next two years we estimate staff ownership is likely to remain above 33% in the medium term (Babcock & Brown Limited).

Analysts often mention credit ratings issued by rating agencies on the company, which are also classified under ‘financial relations’:

On 30 September 2004, Standard & Poor’s rated only 1% of the bank’s exposures to business, government and other financial institutions below B+, a sub-investment grade, which is a positive measure of the bank’s asset quality (Westpac Banking Corporation Limited).

Thus, information on ‘financial relations’ used by analysts invariably conveys messages as to the confidence of investors in the company and its credit worthiness, both being qualitative indicators of companies’ financial stability.

The ‘corporate image and reputation’ subcategory included within external capital ranks third in terms of the number of analyst reports referring to it and tenth according to the extent of references. Analysts tend to use this information to portray a company in a positive light:

The company has a strong position in gaming machine design and manufacture, as well as gaming systems, and despite the moribund Australian market, international opportunities are strong (Aristocrat Leisure Limited).
TIM has a strong track record in the agribusiness investment management sector and has been developing agribusiness projects since 1987 and issuing prospectuses since 1992 (Timbercorp Limited).

This contention is supported by the significantly high level of positive tenor references in the ‘corporate image and reputation’ subcategory.

The least used subcategories of external capital are ‘government and other relationships’ and ‘customer relationships, satisfaction and loyalty’, which together account for a mere 2.8 per cent of the overall external capital information used. Also, these are the two external capital subcategories found in the least number of analyst reports (18 reports).

**Human capital**

Panel B of Table 2 shows that several subcategories belonging to human capital contain low frequency of references. ‘Employee attitudes, commitment and satisfaction’ and ‘employee equality’ subcategories are not referred to at all in analyst reports. In addition, ‘training and development’ (2 references), ‘working environment’ (10 references), ‘employee entrepreneurship’ (16 references), ‘skills and capabilities’ (26 references) and ‘remuneration and incentive schemes’ (34 references) together account for less than 2.5 per cent of total IC references and none of these subcategories is individually found in more than 11 analyst reports. Nonetheless, these IC information has found to be reported by companies (Abeysekera and Guthrie, 2005; Brennan, 2001; Guthrie *et al*., 2006).

Despite the low level of references to many human capital subcategories, the two most referred to IC subcategories in this study: ‘work experience’ (703 references) and ‘employees (other)’ (402 references) belong to human capital. These two subcategories, together, account for almost 31 per cent of total IC references. Further, the ‘employees (other)’ category is present in 46 analyst reports and ranks second in terms of number of analyst reports referring to an IC subcategory.

Human capital information related to ‘employees (other)’, ‘remuneration and incentive schemes’, ‘skills and capabilities’ and ‘work experience’, which together account for 88 per cent of total human capital references, overwhelmingly relate to company management, including board of directors (see Table 4).
In addition, the majority of information relating to ‘educational qualifications’ and ‘management team’ predominantly pertains to company management. The references relating to senior executives and members of the Board are often sourced from short bio-profiles published on them in analyst reports, either within the body of the report or as an appendix. These bio-profiles include information on previous work experience, educational qualifications, current positions, and expertise:

Greg Kirk joined Challenger from AMP Financial Planning where he had been MD for the past six years. Mr. Kirk has worked in financial services for more than 25 years and prior to joining AMP, held a number of senior distribution and sales management roles with ANZ Group (Challenger Financial Services Group Limited).

**Internal capital**

As highlighted in Table 2, ‘strategy’ is the most referred to internal capital subcategory with 144 references (4.04 per cent) and ‘management processes, policies and practices’ is the second most referred to (130 references: 3.64 per cent) internal capital subcategory. However, these two subcategories rank seventh and eighth respectively, in relation to total IC references. Information on ‘strategy’ is often used by analysts as evidenced by 40 analyst reports referring to this subcategory (i.e., the fourth highest). The use of information on ‘organisational and management structures’ (88 references: 33 reports) is also high and common compared to other internal capital subcategories. The relative importance placed by analysts on these internal capital subcategories, especially ‘strategy’, is consistent with prior studies (e.g., García-Meca, 2005; García-Meca and Martinez, 2007).

The high level of ‘strategy’ references is consistent with analysts’ task of forecasting, as future firm performance is dependent on the current strategies in place and proposed strategies. Analysts tend to articulate the nexus between strategy and financial performance of the firm in their reports:

[…] Crown will continue to seek new opportunities to invest or acquire assets, which meet internal financial and strategic criteria, in existing and new markets to generate strong returns on its investments (Crown Limited).
We think this hybrid strategy, similar to the previous model of the online edition of
the New York Times, could increase both subscription revenues and advertising
revenues from greater reach eclipsing what would likely be lower CPMs and the loss
of some subscribers (News Corporation Limited).

A similar link to future and current firm performance can be observed in references to
the ‘management processes, policies and practices’ subcategory. This subcategory
includes, inter alia, systems, policies, practices, procedures and/or techniques that
support and enable the practical implementation of corporate strategy (Unerman et al.,
2007). Information commonly coded under this subcategory are business process
improvements, outsourcing of management functions, operational strategies for
reducing costs and increasing efficiency and flexibility, and supply chain
management. As well as disclosing strategies employed by companies, it is important
to mention how strategies are implemented and the interim results of such
implementation. This information may provide credibility to the analysts’ value-
creation story for the company and help justify their forecasts and valuations:

The company is undertaking trials with most of the largest grocery suppliers in
Australia and delivering improvements in logistics costs and level of on time delivery
(Woolworths Limited).

The Review identified $15–20m of cost savings (including depreciation and
amortisation) to be recognised by FY07 (Australian Stock Exchange Limited).

Another challenge for the company is to manage its suppliers given its strict working
guidelines, while matching its needs for growth, cost reduction and innovation
(Cochlear Limited).

Unlike for the ‘strategy’ and ‘management processes, policies and practices’
subcategories a direct nexus with financial performance cannot be envisaged for
‘organisational and management structure’ information. This type of information has
mainly been used as background information or as part of the scenario for explaining
the value-creation story of the company:

Billabong’s management structure is centred on the geographic segments it competes
in (Billabong International Limited).
The management structure also provides stability as most of the key management personnel have spent more than 10 years with either Crown Melbourne Limited or Burswood Limited (Crown Limited).

The Trust’s 30% indirect economic interest in the Kawasaki Dice mall will be held through the Tokutei Mokuteki Kaisha (TMK) structure, a special purpose company created under the Japanese Asset Liquidation Law (Babcock & Brown Japan Property Trust).

The least used internal capital subcategories are ‘IP’ (1 reference), ‘management philosophy’ (3 references), and ‘quality’ (10 references). Further, ‘corporate culture’, ‘R&D’, ‘technology (other)’, and ‘IT & IS’ subcategories account for less than 1 per cent of total IC references on a standalone basis. None of these subcategories is found in more than ten analyst reports.

5 Discussion

The discussion of findings is organised under three subsections. First, we discuss the overall use of IC information by analysts. Second, the relative use of different IC categories is discussed. Finally, a discussion of the context in which various IC subcategories is used is provided.

Overall use of IC information

This study finds a relatively high-level use of IC information by analysts (55.73 IC references per analyst report), in comparison to prior studies. An investigation into NFI in analyst reports by Flöstrand and Ström (2006) revealed the presence of only 5.33 information categories, on average, out of a total of 70 categories. In another study by Flöstrand (2006) only an average of 2.48 out of 76 IC indicators was observed in initiating coverage reports. This indicates that analysts of Australian companies appreciate the importance of IC, in general.

The high level of IC references found in this study, compared to prior international studies, indicates that analysts use more IC information in initiating coverage reports than in results and company reports. This is plausible as initiating coverage reports are used to discuss information important to the valuation of a company in an
informative and a comprehensible manner. Hence, future studies investigating IC information in analyst reports ought to use *initiating coverage reports*.

Although the average number of IC references per analyst report is high, the study failed to find a consistent use of IC information across analyst reports, as indicated by the great variation in the extent of IC references between analyst reports. This could be attributed to importance analysts placing on IC information depending on other factors such as industry or firm risk. Alternatively, not all analysts may appreciate the importance of IC or they may not have been trained in dealing with IC information in firm valuation (Bukh and Johanson, 2003; Holland, 2003; Mouritsen, 2003).

Further, this study failed to find any evidence of a systematic analysis of IC information in any of the analyst reports. In addition, there were no references in the analyst reports to the term *IC* or the key academic terminology used in respect of IC subcategories. These findings could be interpreted in several ways. First, analysts may not have the necessary tools and analytical models to analyse IC information in the context of other information or express how they use IC information. Second, analysts’ conception of IC could be quite different to what academics and practitioners theorise as IC. Third, they may be using IC information in forecasting and valuations in a manner that is difficult to be expressed in justifying their decisions.

**Reasoning the differential emphasis on external, internal and human capital**

Consistent with prior research evidence this study found that analysts’ use more external capital information than human and internal capital information (e.g., Arvidsson, 2003; Flöstrand, 2006; Orens and Lybaert, 2007). Nonetheless, the finding that human capital is the second most referred to IC category, contradicts prior research that finds internal capital is the second most frequently used category (e.g., Flöstrand, 2006; Orens and Lybaert, 2007). This inconsistency needs to be interpreted in the light of: differences in the scope and function of *initiating coverage reports* and other types of analyst reports; and research method differences among the studies.

Looking at the relative emphasis of external capital information in analyst reports, at least, four possible reasons can be forwarded. First, as Flöstrand (2006) points out, there is a nexus between external capital and financial performance. A major part of
analysts’ work when valuing a company is forecasting future financial performance, cash flows, and growth rates. By definition, IC has the potential to enhance companies’ future financial performance, and hence the types of IC information most widely used by analysts in their reports are arguably those believed to have the most impact on future earnings and cash flows. Thus, a possible explanation for the widespread use of external capital information is the likelihood to be closely linked to cash flows and earnings.

Second, products of human and internal capital are often manifested in external capital, and it is the point where the efforts of the former two categories are visible. Flöstrand (2006, p.472) explains that “relational [or external] capital is the fruit of what human capital and structural [or internal] capital contribute to the creation of value” and “relational capital is not always discernible from human and structural capital”. The interrelationships between these three categories of IC and their interactive impact on future value creation have been empirically validated (Hermans and Kauranen, 2005). Therefore, the relative emphasis on external capital by analysts is inappropriate to be interpreted as external capital having superiority over the other two IC categories in value creation, but as outputs of the interaction among the three elements being materialised more often in terms of external capital. For instance, information on synergistic benefits accruing to companies from business collaborations is commonly found in analyst reports, and has been categorised under external capital in this study. These synergistic benefits may pertain to rationalising and collaborating, for example, systems, process, technology and expertise that are generally included under internal capital.

Third, analysts may be placing more emphasis on external capital and less on human capital and internal capital as a mechanism for dealing with the complexity of information in the latter IC categories. This is consistent with the position held by Almqvist and Henningsson (2009) that capital market actors reduce the complexity of information by shifting the focus to a more familiar and manageable surrogate. Fourth, external capital relates to relationships with stakeholders. These relationships are often impacted by changes in the external environment. Organisational reactions to environmental changes, such as rationalisation of distribution channels, reconfiguration of firm value chains, reassessment of customer value, and
globalisation and segmentation of markets may have significant impact on the external capital of firms. These aspects need to be evaluated and criticised if one is to recommend a company as an investment. However, the impact of the changes in the external environment on human and internal capital is comparatively less visible. This has been pointed out as a reason for the higher proportion of external capital observed in annual reports in prior studies (e.g., Guthrie and Petty, 2000; Whiting and Miller, 2008).

On the use of human capital information, this study supports prior literature by confirming that information relating to general employees, working conditions/environment and employee satisfaction are rarely used by analysts (e.g., García-Meca, 2005; García-Meca and Martínez, 2007). It has previously been found through interviews with analysts that information about employees and their working environment are least desired by analysts and information about employee related investments is not used at all (Eccles and Mavrinac, 1995). According to the literature human capital references are predominantly devoted to the discussion of company management and the quality and credibility of the management team. Result of this study indicates that references to the ‘management team’ subcategory are forward-looking, and emphasise management’s potential future contributions. Hence, the findings support observations made in prior studies that an important task of analysts is to judge management quality as a surrogate for the quality of human capital (Barker, 1999; Holland and Johanson, 2003).

Almqvist and Henningsson (2009) provide an explanation of the analysts’ disinterest in information on corporate personnel and work environment, and their interest in company management instead. They contend that capital market actors reduce complexity of information on corporate personnel and work environment by “admit[ting] to the difficulties inherent in calculating the worth of personnel – and thereby exclud[ing] them as value-contributors” (Almqvist and Henningsson, 2009, p.52). This is arguably done by relying on management, who has the onus of putting the corporate personnel to their best use and managing the work environment to facilitate employee productivity.

In assessing the use of internal capital information, it was revealed that the majority of internal capital subcategories have a very low frequency of references in analyst
reports. IP, management philosophy, quality, corporate culture, R&D, technology, and IT & IS subcategories accounted for less than 1 per cent of IC references relative to total IC references. Prior studies have also reported low frequency of use of some of these internal capital subcategories in analyst reports (e.g., Arvidsson, 2003; García-Meca and Martínez, 2007).

The finding that information on employees, working environment, and most types of internal capital are infrequently utilised by analysts is counter-intuitive to the extant research evidence on the profitability of human capital and internal capital investments (e.g., Bilmes et al., 1997; Brynjolfsson and Hitt, 1996; Neely and Al Najjar, 2002). One reason may be that disclosure of human and internal capital information by companies is limited compared to external capital information (Abhayawansa and Abeysekera, 2008). Hence, the relative unavailability of these types of information to capital market participants (García-Meca, 2005). Alternative as suggested by Johansson (2003), this could perhaps be due to the difficulty analysts have in envisaging the impact of these types of information on earnings and firm value due to their entangled nature — especially problems with comprehending the nexus between specific human/internal capital indicators and firm vision, strategies, and idiosyncratic value creation processes.

When firms disclose human and internal capital indicators, which are essentially disentangled manifestations of otherwise entangled resources; analysts may find it difficult to revert to seeing its entangled form. Mouritsen (2003, p.23) contends that:

> The more disentangled the resource is, the more it is made separate; the more the resource has been made separate, the more it is different from the material from which it gained its power and action. Therefore, the more the resource is disentangled, the more it is transformed into something quite different, governed not by logic of the complementarity of assets, but by logic of the institutional rules found outside the *locus* of complementarity (emphasis in original).

When a resource is presented devoid of its relationships to other resources, the user of such information may find limited utility. Therefore, the cause of the problem may at least partly lie in the way certain human and internal capital information is presented by firms.
**Varying uses of IC in company analysis**

Results reveal that analysts have varying uses of IC information. First, certain types of IC information are used by analysts to communicate the value creation potential of a company, and therefore to justify their forecasts and recommendations. This is highlighted by references to ‘mergers and acquisition’ related information in the ‘business collaborations’ subcategory being frequently used by analysts to indicate future growth and market expansion opportunities and potential synergistic benefits. Similarly, ‘brand’ related references indicate the possibility of future profit growth through leveraging strong brands owned by the firm.

Second, IC information is used to explain how a firm is intending to increase future firm value and realise the firm’s value creation potential in the future. This is partly found in references to the ‘strategy’ subcategory, which highlight that IC is utilised in communicating the means of future value creation. Similarly, frequent use of information on ‘management processes, policies and practices’ suggests that analysts consider it important to explain and justify how future value is intended to be realised though strategy implementation.

Third, the results indicate that analysts favour IC information that has a direct nexus with financial estimates and can be incorporated into their valuation models. This is evident in relation to the frequent use of information on cost and revenue synergies arising from business collaborations and changes in market share. These types of information are often associated with analysts’ earnings and cash flow estimates. At the same time, IC information that is difficult to be incorporated in to valuation models such as, information on ‘government and other relationships’ and ‘customer relationships, satisfaction and loyalty’ are used infrequently by analysts. Prior research finds limited references to these types of relationships in analyst reports (Nielsen, 2004; Orens and Lybaert, 2007). Campbell and Slack (2008), through interviews with analysts, found little attention has been paid to these types of information when provided by companies, and seen as irrelevant in report preparation. An analyst in their study commented on the use of this type of information as “these are more soft issues and they wouldn’t be driving the [forecasting] model. We are about numbers. We are putting numbers in a spreadsheet and coming up with a forecast” (Campbell and Slack, 2008, p.23).
Fourth, IC information is frequently used to promote the company to current and potential shareholders. References to the ‘customers’ and ‘corporate image and reputation’ subcategories are mostly made positively to convey the company’s ability to be competitive and thus generate sustainable profits. As a result the company is promoted as a reliable investment. It has been found that companies too over-report on brands in their annual reports to appear more convincing to shareholders (Abeysekera and Guthrie, 2005). This contention is supported by the references made frequently to market dominance and leadership, captured under the ‘market share’ subcategory, which indicate an ability to maintain future cash flows. Also, information on ‘financial relations’ is included in analyst reports in such a way as to build investors’ and creditors’ confidence in the company.

Lastly, certain types of IC information, such as ‘organisational and management structure’ and ‘organisational and business expertise’, are mainly used as part of background information in order to explain the company and its operations. Concurring with Holland’s (2004; 2006) notion of the mosaic of information, it can be argued that these types of information form part of the mosaic of information, which is used to build the value-creation story of the firm.

6 Summary and conclusion

Little academic research has been directed at the use of IC information by capital market participants. Although, the value relevance literature provides some evidence on the impact of certain types of IC information on firm value (Abhayawansa and Guthrie, 2010), the nature of IC resources that is different to conventional assets has rendered such investigations into most types of IC futile. Thus, many questions on the importance of types of IC information to the capital market within the context of their use in the valuation decision-making processes of capital market participants hadn’t been unanswered. This paper contributes to an increased understanding of this phenomenon.

In this paper by exploring the IC topics important to analysts, it was found that analysts place more importance on particular types of IC information over others, and several types of IC information are rarely or never used. These findings reveal the importance of many types of IC to the capital market that value-relevance research
has been unable to establish. Also, this paper provides new knowledge on the broader role of IC, which includes (1) provision of background information to understand the firm and its operations; (2) building the firm value creation story; (3) explaining the strategy and methods of realising value potential; (4) generating forecasts and valuations; (5) justifying forecasts, valuations and recommendations; and (6) promoting the firm as a reliable investment. Findings of this study extend our understanding of the information intermediation role of analysts’ to their function in relaying IC information and firms’ IC linkages to investors.

This study provides empirical support to the theoretical perspective espoused by Almqvist and Henningsson (2009) in explaining the paradox relating to the ambivalence and disinterest shown by capital market actors concerning information on employees and the work environment. They contend that fund managers exclude company personnel as value contributors and rely instead on the management of the company, as it is a convenient way of approaching the complexity of valuing personnel. Similarly, they argue that the complexity of information on the work environment is dealt with by evaluating the company management and its judgment. In support of this position this study finds minimal emphasis being placed on information relating to employees and the work environment and the high emphasis on information relating to skills, capabilities, qualifications and experience of management and directors by analysts.

This study finds: (1) inconsistency in the use of IC information; (2) lack of systematic analysis of IC information; and (3) an absence of any explicit references to key terminology used in the academic literature on IC. These findings, *inter alia*, indicate that analysts may be unaware of the intricate nature of (some) IC and the impact of particular types of IC information in determining long-term firm value. Being oblivious of IC information that drives future financial performance results in undervaluation of firm equity. The impact of this lack of knowledge is greatest when it is observed in analysts, who are primary users of corporate information and key information intermediaries.

Alternatively, some IC information used in analysts’ forecasts, valuations and recommendations may not be communicated in the form of a value creation story in analyst report. Perhaps this IC information is communicated informally in private
client meetings. More research, especially using interviews with analysts, is necessary to form conclusions in this respect. Provided the former conclusion is true, there would be a need to undertake work at a policy level to educate and train analysts to deal with IC information.

The findings highlight the need for better models and guidelines for analysing IC information and the promotion of them for use by analysts. The existing models and guidelines available for this purpose are limited and inadequate to deal with IC information provided in an unstructured manner (Mouritsen et al., 2003). Also, the findings indicate the need to re-evaluate initiatives such as the Enhanced Analytics Initiative, which has an agenda to encourage sophisticated analysis of the impact of extra-financial issues on long-term investments (Enhanced Analytics Initiative [EAI], 2007). Further, there are implications for organisations providing training and education for financial analysts such as, Institute of Chartered Financial Analysts, Financial Services Institute of Australia, and universities. Particularly, it is important that courses offered by these institutions include modules on analysis of IC information. Analysts, who are members of professional bodies, may be periodically updated on contemporary developments in the field of IC research through continuous professional development programs.

As well as making analysts equipped with the necessary knowledge, skills and tools it is vital to promote approaches to disclosing IC more effectively that enable users to visualise the interrelationships between resources (both tangible and intangible) and outcomes. In this regard, the popular metrics approach recommended in many ICR guidelines/frameworks (e.g., DATI, JMETI, SKE) is inadequate. As an alternative Roslender and Fincham (2001) argue for calling upon organisational participants to offer emancipatory accounts of their own lived organisational experiences that can be published in the form of a year book as a means of increasing the transparency of IC. Firms should re-evaluate their current ICR practices and the role of investor relations in enhancing not only the transparency of their IC related activities but also understandability of that information in light of these findings. Regulators and policy makers should consider the development of reporting standards or guidelines (at least to be adopted on a voluntary basis) to enhance the utility and relevance of corporate reports to key users. The use of IC information by analysts may be encouraged by
enhancing the credibility of key IC information provided to them. From a policy setting perspective, this requires re-evaluation of the role of auditing and assurance services in relation to this new information (Rogers and Grant, 1997). Insights from this study help organisations involved in the development of IC and other reporting guidelines, models and frameworks to assess and evaluate their current initiatives.

**Table 1: Summary of results for the total sample**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average IC information per report</td>
<td>55.73</td>
</tr>
<tr>
<td>Minimum IC information per report</td>
<td>0</td>
</tr>
<tr>
<td>Maximum IC information per report</td>
<td>273</td>
</tr>
<tr>
<td>Average number of IC subcategories disclosed per report</td>
<td>9.97</td>
</tr>
<tr>
<td>Minimum number of IC subcategories disclosed per report</td>
<td>0</td>
</tr>
<tr>
<td>Maximum number of IC subcategories disclosed per report</td>
<td>19</td>
</tr>
</tbody>
</table>
Table 2: Descriptive statistics for IC categories and subcategories

<table>
<thead>
<tr>
<th>Panel A: Main IC categories</th>
<th>Frequency of references</th>
<th>Mean</th>
<th>Rank by frequency</th>
<th>No. of reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>External capital</td>
<td>1607 (45%)</td>
<td>25.11</td>
<td>1</td>
<td>62</td>
</tr>
<tr>
<td>Human capital</td>
<td>1329 (37%)</td>
<td>20.77</td>
<td>2</td>
<td>48</td>
</tr>
<tr>
<td>Internal capital</td>
<td>631 (18%)</td>
<td>9.86</td>
<td>3</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>3567 (100%)</td>
<td>55.73</td>
<td></td>
<td>63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B: IC subcategories</th>
<th>Frequency of references</th>
<th>Mean</th>
<th>Rank by frequency</th>
<th>No. of reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work experience</td>
<td>703 (19.71%)</td>
<td>10.98</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Employees (other)</td>
<td>402 (11.27%)</td>
<td>6.28</td>
<td>2</td>
<td>46</td>
</tr>
<tr>
<td>Business collaborations</td>
<td>293 (8.21%)</td>
<td>4.58</td>
<td>3</td>
<td>48</td>
</tr>
<tr>
<td>Brands</td>
<td>272 (7.63%)</td>
<td>4.25</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Market share</td>
<td>235 (6.59%)</td>
<td>3.67</td>
<td>5</td>
<td>34</td>
</tr>
<tr>
<td>Customers (other)</td>
<td>223 (6.25%)</td>
<td>3.48</td>
<td>6</td>
<td>39</td>
</tr>
<tr>
<td>Financial relations</td>
<td>196 (5.49%)</td>
<td>3.06</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Strategy</td>
<td>144 (4.04%)</td>
<td>2.25</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>Management processes, policies and practices</td>
<td>130 (3.64%)</td>
<td>2.03</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Corporate image &amp; reputation</td>
<td>125 (3.50%)</td>
<td>1.95</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>Favourable contracts, licensing and franchising agreements</td>
<td>122 (3.42%)</td>
<td>1.91</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>Distribution</td>
<td>96 (2.69%)</td>
<td>1.50</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>Organisational &amp; management structure</td>
<td>88 (2.47%)</td>
<td>1.38</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>Educational qualifications</td>
<td>81 (2.27%)</td>
<td>1.27</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Business model</td>
<td>79 (2.21%)</td>
<td>1.23</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Organisational &amp; business expertise</td>
<td>58 (1.63%)</td>
<td>0.91</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Management team</td>
<td>55 (1.54%)</td>
<td>0.86</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>Corporate governance</td>
<td>43 (1.21%)</td>
<td>0.67</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Remuneration and incentive schemes</td>
<td>34 (0.95%)</td>
<td>0.53</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Skills and capabilities</td>
<td>26 (0.73%)</td>
<td>0.41</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>Customer relationships, satisfaction and loyalty</td>
<td>25 (0.70%)</td>
<td>0.39</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>IT &amp; Information Systems (IS)</td>
<td>23 (0.64%)</td>
<td>0.36</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>Technology</td>
<td>23 (0.64%)</td>
<td>0.36</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>Government and other relationships</td>
<td>20 (0.56%)</td>
<td>0.31</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>Employee entrepreneurship</td>
<td>16 (0.45%)</td>
<td>0.25</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Research &amp; development</td>
<td>15 (0.42%)</td>
<td>0.23</td>
<td>26</td>
<td>5</td>
</tr>
<tr>
<td>Corporate culture</td>
<td>14 (0.39%)</td>
<td>0.22</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>Working environment</td>
<td>10 (0.28%)</td>
<td>0.16</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>Quality</td>
<td>10 (0.28%)</td>
<td>0.16</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>Management philosophy</td>
<td>3 (0.08%)</td>
<td>0.05</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>Training and development</td>
<td>2 (0.06%)</td>
<td>0.03</td>
<td>30</td>
<td>2</td>
</tr>
<tr>
<td>IP</td>
<td>1 (0.03%)</td>
<td>0.02</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td>Employee attitudes, commitment and satisfaction</td>
<td>0 (0.00%)</td>
<td>0.00</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Equality</td>
<td>0 (0.00%)</td>
<td>0.00</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Total IC</td>
<td>3567 (100%)</td>
<td>55.73</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Frequency of references to business collaborations

<table>
<thead>
<tr>
<th>Types of business collaborations</th>
<th>Frequency of references</th>
<th>No. of analyst reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mergers and acquisitions</td>
<td>150 (51%)</td>
<td>31 (48%)</td>
</tr>
<tr>
<td>Joint ventures</td>
<td>52 (18%)</td>
<td>21 (33%)</td>
</tr>
<tr>
<td>Subsidiaries and associates</td>
<td>44 (15%)</td>
<td>17 (27%)</td>
</tr>
<tr>
<td>Strategic alliances</td>
<td>41 (14%)</td>
<td>10 (16%)</td>
</tr>
<tr>
<td>Private-public partnerships</td>
<td>6 (2%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Total business collaborations</td>
<td>293 (100%)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 4: Human capital references by employee type

<table>
<thead>
<tr>
<th>Human capital subcategories</th>
<th>Frequency of references</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CEO</td>
</tr>
<tr>
<td>Employees (other)</td>
<td>67 (17%)</td>
</tr>
<tr>
<td>Remuneration &amp; incentive schemes</td>
<td>N/A</td>
</tr>
<tr>
<td>Skills &amp; capabilities</td>
<td>3 (12%)</td>
</tr>
<tr>
<td>Work experience</td>
<td>100 (14%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>170 (15%)</strong></td>
</tr>
</tbody>
</table>

*References relating ‘remuneration and incentive schemes’ are recorded only for two groups: ‘executives and directors’, and ‘other employees’. References to ‘remuneration and incentive schemes’ for CEO are included under ‘executives and directors’.*
References


Holland, J. (2004), *Corporate intangibles, value relevance and disclosure content* (Institute of Chartered Accountants of Scotland: Edinburgh).


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1 Flöstrand (2006, pp. 463-4) defines an IC indicator as “[…] a parameter or a value derived from parameters, which provides information about a phenomenon. The indicator has significance that extends beyond the properties directly associated with the parameter values”. IC indicators are purely numerical or monetary representations of IC.

2 For instance, Pike et al. (1993) found that German analysts consider more types of NFI as highly important than UK analysts, whilst the type of NFI considered as very important by the analysts of the two countries varied.

3 Although Flöstrand (2006) examined IC in initiating coverage reports, his investigation was limited to numerical IC indicators. Given that, numerical expressions of IC are just a small part of all IC information communicable by analysts, a more detailed investigation of IC information in initiating coverage reports is warranted.

4 Sectors are defined in terms of the GICS® classification. The GICS® classifies companies into sectors, industry groups, industries and sub-industries. The GICS® system incorporates 10 sectors, 24 industry
groups, 67 industries, and 147 sub-industries. In addition, two more sectors (REITs and financials excluding REITs) comprise the GICS® in Australian. The 10 original sectors include consumer discretionary, consumer staples, energy, financials, health care, industrials, information technology, materials, telecommunication services, and utilities.