



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA

University of Wollongong  
Research Online

---

Faculty of Commerce - Papers (Archive)

Faculty of Business

---

2009

# Intellectual capital disclosure from sell-side analyst perspective

S. Abhayawansa

*Swinburne University of Technology*

Indra Abeysekera

*University of Wollongong, [indraa@uow.edu.au](mailto:indraa@uow.edu.au)*

---

## Publication Details

Abhayawansa, S. & Abeysekera, I. (2009). Intellectual capital disclosure from sell-side analyst perspective. *Journal of Intellectual Capital*, 10 (2), 294-306.

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library:  
[research-pubs@uow.edu.au](mailto:research-pubs@uow.edu.au)

---

# Intellectual capital disclosure from sell-side analyst perspective

## **Abstract**

**Purpose** – Research on the use/disclosure of intellectual capital (IC) information by sell-side analysts, using content analysis of their reports, is growing. The objectives of this paper are to establish the importance of this perspective in understanding the role of IC in communicating firm value, to introduce possible theoretical frameworks to interpret the findings of such studies, and to propose methodological developments.

**Methodology/approach** – The paper argues for the need to look at IC from the perspective of sell-side analysts, and then advocates the use of several theoretical frameworks to enrich current understanding of the role of IC as it is used/disclosed by sell-side analysts. Current methodologies used in this type of research are critiqued with a view to proposing multiple research methods. **Findings** – Looking at IC from the sell-side analyst perspective helps us to understand how the capital market appreciates this information. However, IC information that analysts disclose cannot be taken at its face value. Issues of signalling, analysts' incentives/influences, political economy view, and globalisation are introduced as providing theoretical frameworks for explaining IC disclosure in sell-side analysts' reports. To obtain a richer picture of the role of IC information in analysts' decision processes, multiple research methods are proposed. **Practical implications** – The proposals in this paper may inform and guide future research on IC information use/disclosure by sell-side analysts with theoretical underpinnings and methodological rigour. **Originality/value** – This paper is the first attempt to propose possible theories for interpreting findings of studies on IC use/disclosure by sell-side analysts and suggest multiple research methodologies in this type of research.

## **Keywords**

Analyst reports, Content analysis, Intellectual capital, Intellectual capital disclosure, Sell-side analysts

## **Disciplines**

Business | Social and Behavioral Sciences

## **Publication Details**

Abhayawansa, S. & Abeysekera, I. (2009). Intellectual capital disclosure from sell-side analyst perspective. *Journal of Intellectual Capital*, 10 (2), 294-306.

# **Intellectual capital disclosure from sell-side analyst perspective**

by

Subhash Abhayawansa

Faculty of Business & Enterprise

Swinburne University of Technology, Australia

and

Indra Abeysekera

Discipline of Accounting

The University of Sydney, Australia

Subhash Abhayawansa  
Faculty of Business & Enterprise  
Swinburne University of Technology  
Australia  
Phone: +613 9214 4327  
Email address: [sabhayawansa@swin.edu.au](mailto:sabhayawansa@swin.edu.au)

Dr. Indra Abeysekera  
Discipline of Accounting  
University of Sydney  
Australia  
Telephone: +61290367813  
Fax: +612 9351 6638  
Email: [indraa@econ.usyd.edu.au](mailto:indraa@econ.usyd.edu.au)

## **Intellectual capital disclosure from sell-side analyst perspective**

### **Abstract**

**Purpose** – Research on the use/disclosure of intellectual capital (IC) information by sell-side analysts, using content analysis of their reports, is growing. The objectives of this paper are to establish the importance of this perspective in understanding the role of IC in communicating firm value, to introduce possible theoretical frameworks to interpret the findings of such studies, and to propose methodological developments.

**Methodology/approach** – The paper argues for the need to look at IC from the perspective of sell-side analysts, and then advocates the use of several theoretical frameworks to enrich current understanding of the role of IC as it is used/disclosed by sell-side analysts. Current methodologies used in this type of research are critiqued with a view to proposing multiple research methods.

**Findings** – Looking at IC from the sell-side analyst perspective helps us to understand how the capital market appreciates this information. However, IC information that analysts disclose cannot be taken at its face value. Issues of signalling, analysts' incentives/influences, political economy view, and globalisation are introduced as providing theoretical frameworks for explaining IC disclosure in sell-side analysts' reports. To obtain a richer picture of the role of IC information in analysts' decision processes, multiple research methods are proposed.

**Practical implications** – The proposals in this paper may inform and guide future research on IC information use/disclosure by sell-side analysts with theoretical underpinnings and methodological rigour.

**Originality/value** – This paper is the first attempt to propose possible theories for interpreting findings of studies on IC use/disclosure by sell-side analysts and suggest multiple research methodologies in this type of research.

**Paper type** – Conceptual

**Keywords** – Analyst reports, Content analysis, Intellectual capital, Intellectual capital disclosure, Sell-side analysts

Authors wish to acknowledge helpful comments of Professor James Guthrie on an earlier version of this paper. Also, the authors have been assisted by comments of participants when this paper was presented at the 2007 AFAANZ Conference, Queensland, Australia.

## **1. Introduction**

Changes in the business environment from the industrial era to the new economy have transformed the corporate value creation process and strategy, particularly for firms in non-traditional industries (Lev & Zarowin, 1999). The potential for creating competitive advantage and long-term corporate value now lies more importantly in effective management of intangibles or intellectual capital (IC<sup>1</sup>) than in tangible assets. In keeping with the changes in the corporate value creation process, traditional financial reporting systems have become inadequate in providing useful information for stakeholders' decision-making, due to their limitations in the identification and measurement of IC in organisations.

Guthrie, Petty & Johanson (2001) identified two evolving IC missions: (1) developing systems for creating, capturing and disseminating IC within organisations' for internal strategic decision-making, and (2) establishing new measures, and ways of reporting externally the value attributable to IC. These missions encompass the information needs of managers for internal management of the firm and the information needs of investors for valuing the firm as an investment opportunity.

---

<sup>1</sup> The literature commonly describes IC as including external (relational) capital, internal (structural) capital and human (competence) capital. Abeysekera and Guthrie (2005) provide a comprehensive list of IC items, with the external capital category comprising 10 IC items, categorised as brand-building, corporate image-building, business partnering, distribution channels and market share; the human capital category comprising 25 IC items, categorised as training and development, equity issues, employee relations, employee welfare, employee-related measurements, entrepreneurial skills, and employee safety; and the internal capital category comprising 10 IC items, categorised as processes, systems, intellectual property, philosophy, culture, and financial relations.

The proportional increase in the corporate value derived from IC has resulted in capital market intermediaries such as sell-side analysts and fund managers requesting more information about firms' IC (Holland & Johanson, 2003).

Barth, Kasznik and Mc Nichols (2001) contend that there is information asymmetry between firms and investors, especially in firms with substantial intangible assets. Regardless of the movement within firms towards greater disclosure of non-financial performance measures, and IC in particular, evidence suggests that firms disclose much less IC-related information than what analysts expect (García-Ayuso, 2003).

IC reporting by firms has been studied in detail since the late 1990s. Researchers have examined IC disclosure in annual reports across countries and time, company websites, presentations to analysts, and IPO prospectuses. They have also investigated the determinants of IC disclosure by firms in different media. However, study of the use of IC by financial analysts is in its infancy. Research into the use of IC information by buy-side analysts is largely limited to the work of Holland (2001; 2006), Holland and Johanson (2003) and Bukh and Nielsen (2006), using case study interviews. More research is needed in this direction. Research into the use of IC information by sell-side analysts has also benefited from case study methodology (e.g., Holland & Johanson, 2003; Johansson, 2007). Another method of investigating the use of IC by sell-side analysts is to analyse the IC information disclosed in their reports to investors. Such studies are largely descriptive and lack theoretical underpinning and methodological rigour. This paper is motivated by the growing research interest in the area of IC information use/disclosure by sell-side analysts, and aims to introduce multiple theories that can enhance the quality of future research.

Further, we discuss limitations of the methodologies currently employed in these studies and recommend multiple methods or triangulation as the way forward.

The next section reviews the literature on use of IC information by sell-side analysts and IC disclosure in analyst reports. Section 3 discusses a number of theories that can enrich research on IC use/disclosure by sell-side analysts. Section 4 examines different research methods, recent trends, and ways to strengthen future research. Section 5 concludes the paper.

## **2. Literature review**

Two streams of IC disclosure-related literature can be clearly identified. One focuses on the extent and nature of IC disclosed by firms and the other pertains to the use of that information by financial analysts as presented in their reports. Financial analysts in the capital market comprise sell-side analysts and buy-side analysts. Sell-side analysts work for brokerage firms and produce public reports influencing the supply side of information. Institutional investors employ buy-side analysts to make recommendations, exclusively, on their asset portfolios.

Schipper (1991) contends that sell-side analysts are among the primary users of accounting information and represent an important target group in financial reporting. Sell-side analysts' reports are a primary source of information for buy-side analysts (Fogarty & Rogers, 2005; Holland, 2006; Holland & Johanson, 2003). Retail investors rely on secondary information sources such as sell-side analyst reports

through their stockbrokers<sup>2</sup>. Sell-side analysts use superior decision models and are trained at identifying and analysing the impact of both financial and non-financial value drivers. Rapid pace at which the market changes and the complexity of value creation process in the knowledge economy makes non-professionals more reliant on sell-side analyst advice and reports. The importance of sell-side analysts in the demand side of the market for corporate information underpin the large body of literature on analysts' decision processes; and sell-side analysts' valuation of firms is considered as a market proxy (Schipper, 1991). The status of sell-side analysts in the market for information makes them and their work (i.e. the analyst report), important subjects for research.

The role of sell-side analysts involves more than calculating financial ratios and analysing financial data. IC is increasingly important in firm value creation, as evidenced by the widening gap between book value and market value of firms (Sveiby, 1997). This in turn makes it important to investigate how and what IC is incorporated in market prices using the work of sell-side analysts. In this context, a number of studies have been conducted on the use of non-financial information (e.g., Fogarty & Rogers, 2005; Previt, Bricker, Robinson & Young, 1994) and IC information (e.g., Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005) in sell-side analyst reports. Research evidence suggests that sell-side analysts use non-financial and IC information extensively and they disclose such information in their reports.

---

<sup>2</sup> Epstein (1975) studied the information sources of retail investors and found stockbrokers, advisory services and financial press are considered as the most important information sources where as financial statements were of minor importance.



For sell-side analysts, a vital information source about firms is public documents the firms produce (Fogarty & Rogers, 2005). External disclosure of IC by companies have been argued and discussed since the late 1980s, as evidenced by the early works of Sveiby. Importance of IC was formally recognised by the accounting profession with the appointment of the Jenkins Committee of the American Institute of Certified Public Accountants in 1994 to address the challenge of voluntary disclosure of IC information in public documents such as annual reports. Certain firms, particularly in Europe, produce a separate IC statement to supplement their conventional annual report information deficit. Concurrent with these developments, the last decade has seen an enormous interest among firms, in many parts of the world, in supplying IC information in public documents.

An enormous amount of work has been carried out in devising models and frameworks for identifying, classifying, measuring, managing and reporting IC within firms. Models such as the Balanced Scorecard, Skandia Business Navigator, Invisible Balance Sheet, and Technology Broker are results of the work of proponents in this domain. These models may assist information suppliers such as sell-side analysts, although the utility of some of these tools has mainly been in internal strategic decision-making.

The difficulty of valuing IC disclosed in narrative sections in annual reports and other media has limited the ability to investigate the impact of IC on value creation. This explains the dearth of capital market value relevance studies on IC and the abundance of literature examining the impact of financial items recognised in the financial statements, such as accruals and cash flow, on aspects of value creation.

Some attributes of IC are specific to firms and others are less so. For instance, IC items in the internal capital category (e.g., management information systems, organisational culture) are specific to firms, whereas some external capital items (e.g., customer satisfaction) and some human capital items (e.g., relations with unions, involvement with the community) are less firm-specific. This difference has exacerbated the challenge of making statistically valid inferences about the relationship between various IC items and value creation of firms. IC and intangible assets are difficult resources to translate into prediction of stock prices because it is difficult to interpret how various elements of IC are linked in the value creation chain, and the value of IC is entangled with other assets (Mouritsen, 2003).

Valuation relevance is an alternative approach to investigate the impact of IC on firm value creation. If an item of information is disclosed in sell-side analyst reports, it is said to be valuation relevant (Flöstrand & Ström, 2006). Therefore, analysing IC information disclosed in sell-side analysts' reports can provide evidence of the usefulness of IC information in firm value creation. The literature on IC disclosure in sell-side analysts' reports is mainly driven by this motivation. Studies investigating IC information use/disclosure by sell-side analysts, using content-analysis of their reports presented to the investing community, are increasing (e.g., Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005; Previts et al., 1994).

### **3. Theoretical perspectives**

Prior literature focusing on disclosure of IC information in analysts' reports is largely descriptive. These studies merely categorise IC disclosed in analysts' reports into

various subcategories according to frequency of disclosure (e.g., Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005). None of these studies has used a theoretical framework to understand and interpret the findings of frequency of IC disclosure in analysts' reports.

Given the apparent lack of theoretical underpinning and explanation in the literature on IC information use/disclosure behaviour of sell-side analysts in their reports, we introduce four theoretical models to enrich research in this area. These are signalling, analysts' incentives and influences, political economy view and globalisation. .

### **3.1. Signalling**

Signalling is a way of responding to perceived market failure when the market does not have full information (Watts & Zimmermann, 1986). From a signalling perspective, more voluntary disclosure is interpreted by the capital market as 'good news' and less or no voluntary disclosure is interpreted as signalling 'bad news'. Accordingly, firms should voluntarily disclose IC information to avoid undervaluation of their shares. Hunter, Webster and Wyatt (2005) explain that a prime motivation for external disclosure of IC is signalling expected future growth of the firm to external stakeholders.

Management will only make voluntary IC disclosure as long as there is a marginal benefit to be gained from reducing the information asymmetry in the market. Management is believed to have sufficient incentive to disclose when the firm is dependent on stakeholders to continue as a going concern (Toms, 2002). Depending

on whether signals meet certain conditions<sup>3</sup>, stakeholders will believe some signals to be true and reject others. Credibility of the management and the incentive for management to signal may influence the level of IC related signals used by sell-side analysts. Empirical evidence suggests that analysts' assessment of management credibility directly influence the use of future oriented management information by analysts (Barker, 1999). Invariably, these conditions may also dictate analysts' IC information sources.

On the basic premise that sell-side analysts meet the information needs of other stakeholders (i.e. buy-side analysts and retail investors), sell-side analysts play the role of information disseminator. The fact that buy-side analysts trade upon the share recommendations of sell-side analysts and achieve superior performance (Li, 2005) justifies this claim. They improve market efficiency by reducing information asymmetry and increasing the speed with which information is reflected in the market price (Healy & Palepu, 2001). The role of sell-side analysts is pertinent to disseminating IC information about firms, given the exponential growth of knowledge-based firms and the growing demand for knowledge-based products and services in the global economy.

Signalling originates within the firm. Sell-side analysts as information intermediaries may redirect signals through their reports to the wider audience. Since sell-side analysts are more than mere information providers (e.g., substituting firm provided

---

<sup>3</sup> These conditions include management's incentive to disclose, difficulty of imitating the signal, observable relationship between the firm disclosure and stakeholder perception, and cost-effectiveness of the signal.

information) (Lang & Lundholm, 1996), these signals may be modified and complemented by the analysts' own interpretations and additional information.

Bozzolan et al. (2003) contended that lack of institutional investors in the Italian stock market makes it unnecessary for managers to signal the market about creation of IC resources; thus explaining the low level of IC disclosure by Italian firms. On the other hand, IC information is highly proprietary. Many argue that the cost of IC disclosure outweighs its benefits, resulting in the low level of IC disclosure by firms. Thus in the absence of a signalling motivation by management, it is worthwhile to investigate how sell-side analysts use their reports to disclose IC information so as to inform the true value of the firm to the market. Future research could examine how signalling theory can interpret both the use and actual disclosure of IC information by sell-side analysts.

### **3.2. Analysts' incentives and influences**

Sell-side analysts' work may be directly influenced by the stockbroking firm that employs the analysts, by institutional investors and their buy-side analysts. They may also be influenced indirectly through companies for which stockbroking firms provide investment banking services and companies for which sell-side analysts recommend shares (Burgman & Roos, 2007), or at the macro level by the wider institutional framework in which the sell-side analysts operate.

Some studies highlight an optimism bias in sell-side analysts' earnings forecasts (e.g., Chaney, Hogan & Jeter, 1999) and stock recommendations (e.g., Fogarty & Rogers, 2005). Analysis of the distribution of sell-side analysts' stock recommendations

reveals that sell-side analysts issue more buy recommendations than hold or sell recommendations. Analysts' optimism bias is attributed to their incentives, which are partially influenced by stockbroking firms' dependency on market actors for revenue (Carpenter, 2005). Since the analysts' reward system is aligned with revenue generation for the stockbroking firm, analysts issue optimistic forecasts and recommendations that encourage trading volume and investment banking business.

Bias also originates from sell-side analysts' power plays with other actors (Zhang, 2006). Analysts tend to positively bias earnings forecasts and recommendations due to their dependency on management for private information about the companies they follow (Das, Levine & Sivaramakrishnan, 1998). In this light, analysts tend to trade off accuracy in forecasts and recommendation, to a certain extent, for access to private information. Further, analysts' herding behaviour, coupled with the need to protect their self interest (e.g. job security, reputation and promotion), may influence their willingness to compromise forecast accuracy by approximating consensus forecasts<sup>4</sup>.

The literature supports the view that retail investors and buy-side analysts have different expectations from sell-side analysts. Retail investors are generally unaware of the level of bias of sell-side analysts in information dissemination in the form of earnings forecasts and buy/hold/sell recommendations. Retail investors appear to accept these recommendations on their face value, but buy-side analysts review the trends of such recommendations before making decisions (Boni & Womack, 2003).

---

<sup>4</sup> Hong, Kubik and Solomon (2000) found that less experienced analysts were more likely to lose their job for making a decision to deviate from the consensus forecast.

The regulations set by the USA Attorney General in 2003, the Australian Securities and Investments Commission (ASIC), and Société Française des Analystes Financiers (SFAS) in 2002 highlight the repeated calls for truthful forecasts by sell-side analysts (Galanti, 2006). Research has largely neglected the influence of analysts' incentives and the power-plays between stockbroking firms, institutional investors, companies followed and/or serviced by the analyst's stockbroking firm, and individual analysts, and the resulting deception of retail investors who consume sell-side analysts' reports. Because of its qualitative nature, IC information can be easily manipulated by sell-side analysts to justify their forecasts and recommendations.

Analysts' ability to selectively use IC information to substantiate their position provides a different perspective for understanding IC disclosure in analysts' reports and the sources of such information. Examination of sell-side analysts' IC information sources, the type, nature and extent of IC disclosure in their reports, and how such information is linked with recommendations, earnings forecasts or price targets, from the perspective of analysts' incentives and power relationships, is a worthwhile research undertaking. This issue is important in light of the empirical evidence that investors consider IC an economic asset; and that reporting such information shows a strong association with subsequent share returns, and a simultaneous augmentation between the market value and book value of firms (Amir, Lev & Sougiannis, 2003).

### **3.3. Political economy of accounting view**

From the viewpoint of political economy, the productive exchange system of information between sell-side analysts and others is about the interplay of power and the goals of power-wielders. Political economy as a framework extends analysis from

market exchanges to the relationships between power-wielders (Jackson, 1982). Political economy analysis has the following three characteristics: first, it destroys the observed illusionary reality of social processes and structures; second, it elucidates the various ways of dominating, defining, mediating, and legitimating activities; third, it goes beyond economic efficiency and inquires about moral questions of justice, equity and public interest (Boczko, 2000).

The focus of political economy analysis is upon the way an entity (e.g., firm, brokerage house) allocates resources and makes decisions from a broader perspective. In this broader perspective, the political economy view of the constitution of an entity has three dimensions: first, the entity is located in a society that is goal-directed and deliberately structured (Samson and Daft, 2003); second, it is a set of agreements and understandings which define limits and goals; and third, the entity creates rights and responsibilities for those who participate (constituents) in relation to it (Jackson, 1982).

Political economy is evidenced when accounting becomes a way for firms to sustain and legitimise their activities in the presence of social, economic, and political constituents (Cooper, 1980). Within this context, disclosure in accounting reports such as annual reports is viewed as a means to sustain and legitimise activities in the private interests of the entity (Abeysekera, 2006; Guthrie & Parker, 1990). Abeysekera (2008, pp. 23-35) found the political economy view to be a sound theory to explain IC disclosures in Sri Lankan annual company reports. It is suggested that the political economy view is also a suitable and germane way of analysing sell-side analysts' practices.



From the political economy of accounting viewpoint, activities of firms for capital accumulation can create tension between entities and their constituents (Buhr, 1998). These entities then proactively provide disclosure from their perspective, to mediate, suppress, mystify or transform such tension (Guthrie & Parker, 1990).<sup>5</sup> The institutional framework within which sell-side analysts operate is characterised by power play between various constituents as explained in the previous section. Evidence exists to suggest that the information disclosed in their reports is a product of the tensions between the individual analysts and their constituents. Nevertheless the political economy perspective has not been used to explain the IC information disclosure in analysts' reports so far. The tension, and the way sell-side analysts set and shape their disclosure to reduce it, can be better understood by examining the motivations that lead to the disclosure of IC information in sell-side analysts' reports (Puxty, Willmott, Cooper & Lowe, 1987).

### **3.4. Globalisation**

Globalisation has extended the interactions between retail investors, institutional investors, buy-side analysts and sell-side analysts beyond national boundaries. Although there are competing arguments and propositions about the effects of globalisation on developing economies, the reality is that it has changed the composition of the constituents involved in determining the value creation of firms, namely political, economic and social – from a national to an international level. The breaking down of geographic barriers, decreasing transaction costs, and more freely available capital in the intangible economy affect the entire world. These phenomena

---

<sup>5</sup> Proactiveness of firms in disclosing information distinguishes the political economy view from legitimacy theory (Abeysekera & Guthrie, 2005)

have made IC more valuable, allowing knowledge-based firms to earn even greater profits (Daley, 2001). These changes in the dynamics of constituents can contribute to variations in industry-specific risks and market risks. Hence, the examination of sell-side analysts' practices and the information they disseminate in the context of developing economies requires a framework that recognises the effects of globalisation.

Capital concentration and dispersion between countries is a fruitful perspective from which to explore the utilisation and disclosure of IC information by sell-side analysts. For instance, Arvidsson (2003) found that analysts' reports of internationally listed companies disclosed more intangibles information than analysts' reports of domestically listed companies. According to the peripheral capitalism perspective, the articulation of mechanisms such as globalisation and capital markets in underdeveloped economies within the world economic system results in the transfer of resources from developing countries (peripheries) to the centres of global capital in the developed countries. The largely unidirectional transfer of capital, through various mechanisms that block its equitable flow, can enable the centres to distort the allocation of resources in the periphery (Henry, 1985). The peripheral capitalism perspective helps us understand the role of sell-side analysts in disclosing IC in the larger context of capital migration across the globe.

#### **4. Methodological perspectives**

Research on sell-side analysts' information intermediation role has largely employed statistical analytical techniques. This is because such studies have been driven by investigating the variables recognised in financial statements using data available

from external databases. Studies investigating non-financial and IC information use and disclosure by sell-side analysts have primarily relied upon content analysis methodology (Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005). More recently, scholars have applied qualitative techniques based on case study interviews to understand the broader dynamics of sell-side analysts' use and disclosure of IC information (Bukh & Nielsen, 2006; Johansson, 2007).

Although many authors have been quick to commend content analysis for producing objective, systematic and reliable data analysis (Guthrie & Petty, 2000), few have addressed the methodological problems associated with this technique, that can distort findings, or have doubted the credibility of the original textual source (Abeysekera, 2006). The researcher can control many limitations by carefully planning the research.

One major limitation associated with the content analysis method is subjectivity involved in the coding process. For instance, the method is heavily reliant on the integrity of the coder or researcher. None of the studies on IC disclosure by sell-side analysts, and few IC disclosure studies, have addressed how subjectivity in the coding process is mitigated either by using multiple coders, objective coding instruments or repeating the coding process.

There are issues relating to the operationalising of content analysis. Initially, a decision must be made as to the information unit to be counted (i.e. word, sentence or paragraphs) in analysts' reports. For pragmatic reasons, researchers generally use either sentence or paragraph counts, which enable the meanings of terms to be understood in the context of other information. Computerised content analysis

techniques, which have also been used in the sell-side analyst literature on information disclosure, use word counts, either with or without regard to the context in which words appear (Previts et al., 1994).

Another issue in content analysis is dealing with sentences or paragraphs that give rise to more than one intellectual capital item or 'attribute'. One or more IC attribute(s) can give rise to an IC category such as human capital, internal capital, and external capital. Frequency of mention of IC items and IC subcategories may differ depending on how a particular paragraph is coded. This has a direct impact on the conclusions drawn, as frequency of disclosure denotes the importance of an IC attribute. Additionally, there are issues related to converting non-narrative information such as pictures, charts, tables, and numerical figures (both fiscal and non-fiscal) into a quantitative form to be analysed by content analysis.

Operational definitions of IC items and categories can give rise to differences in both results and interpretation. For instance, Gacia-Meca (2005) described the level of IC disclosed in analysts' reports by categorising items into employees, customers, IT, processes, R&D and strategic statements, whereas Flöstrand (2006) used a tripartite categorisation of human, structural and relational capital and Arvidsson (2003) categorised IC into human, relational, structural, R&D and environ/social. Such diversity in categories as well as in the IC items grouped within the categories may distort comparison of findings as well as reliability of interpretation of results.

Another methodological issue relates to the way disclosure indices are operationalised in content analysis. One variant of content analysis methodology records the

frequency of disclosure of each index item in every source document. According to this method, the importance of a particular item relative to others is interpreted by its total frequency count in the whole sample. In the other variant, source documents are searched for the presence or absence of particular items listed in the disclosure index. If an item is found, then the document is not further scrutinised for multiple occurrences of that item. This method assigns importance to disclosure of index items by counting the number of source documents in the sample disclosing the particular item. The results of analysis may differ depending on which variant is applied.

The type and amount of disclosure of IC information in sell-side analysts' reports may vary between initiation coverage and recurrent analysts' reports. Initiation coverage reports provide an opportunity for analysts to discuss a company and its expected future performance at greater length than in recurrent reports, and it is expected that more qualitative information should be available from the narratives of these reports. Flöstrand (2006) found that the length of analysts' reports was positively associated with the number of IC indicators disclosed. Research that does not distinguish between recurrent and initiation coverage reports is unlikely to provide an accurate description of the use of IC information by sell-side analysts under differing circumstances.

Studies also differ in the way the sample of analysts' reports is selected. Most studies analyse a large sample of analysts' reports on an equally large number of companies. In contrast, Nielsen (2004) examined 12 analysts' reports written on one particular company.

Due to the inherent limitations of content analysis methodology, frequency of disclosure cannot be used as the sole method for inferring importance attached to IC items and categories. The dynamic nature of sell-side analysts' activities calls for more insight into their work products through case study methodology. Prior research into information use by sell-side analysts has used multiple methods within studies; but such an approach has not yet been employed in order to investigate IC use/disclosure by analysts. Between-method triangulation can provide more complete and reliable evidence (Shields, 1997). Combining content analysis and case study methodologies can immensely enhance our understanding of the use and disclosure of IC information by sell-side analysts.

## **5. Concluding remarks**

The non-specificity of certain IC items, the complexity in associating IC items with firm value creation, and the difficulty of measuring IC items are factors that have limited empirical literature on the relationship between IC and the market value of firms. In the current economy, which is characterised by knowledge and information, IC has a significant bearing on firm value creation. Sell-side analysts as information intermediaries enlighten the capital market about the expected future value of firms through their reports using earnings forecasts, price targets, stock recommendations and narrative comments. Examining the work product of sell-side analysts provides an alternative perspective for understanding the impact of IC on the market value of firms.

The disclosure of IC by sell-side analysts is a product of complex interactions. At a micro level, stockbroking firms which employ the analysts, buy-side analysts,

investment banking clients of the analysts' stockbroking firms, individual analyst's willingness to herd with other analysts, and their self interest have an influence on sell-side analysts' IC disclosure in their reports. At a macro level, the stock exchange and government as regulators and policy-makers can influence the nature and the coverage of IC disclosure (Burgman & Roos, 2007). At a global level, the extent of openness to the forces of globalisation, buy-side analysts and retail investors can influence IC disclosure to meet expectations. Hence, it appears that IC disclosure by sell-side analysts is a product of proactive and reactive interaction. Sell-side analyst research to date highlights the incompleteness of sell-side analysts' reports, especially in relation to non-financial information (Abdolmohammadi, Simnett, Thibodeau & Wright, 2006), and over-optimism. However, sell-side analysts frequently use IC indicators in their reports, variably across industry sectors, with the majority of them referring to external capital (Flöstrand, 2006). With research supporting the view that buy-side analysts listen to sell-side analysts' recommendations for superior performance (Li, 2005), study is warranted of the neutrality of IC information disclosed and presented by sell-side analysts.

The theoretical underpinning of research into sell-side analysts' IC use and disclosure is in its infancy, and it is an opportune time to investigate possible theoretical foundations for such research. IC disclosure in sell-side analysts' reports can be understood in terms of signalling, analysts' incentives and influences, the political economy view and globalisation, to name a few perspectives. Although positivist theories can certainly contribute to this process, it is argued that critical perspectives can enrich and diversify the research base.

The recent welcome trend in sell-side analyst research using qualitative research methods, both content analysis and case study interviews, would benefit from more rigor in methodologies. It is recommended that future research into IC information use/disclosure by sell-side analysts use a combination of methods to enhance the validity and reliability of findings. This paper is just the foundation for research into IC disclosure by sell-side analysts.



## References

- Abdolmohammadi, M., Simnett, R., Thibodeau, J. C. & Wright, A. M. (2006), "Sell-side analysts' reports and the current external reporting model", *Accounting Horizons*, vol. 20, no. 4, pp. 375-389.
- Abeysekera, I. (2006), "The project of intellectual capital disclosure: Researching the research", *Journal of Intellectual Capital*, vol. 7, no. 1, pp. 61-77.
- Abeysekera, I. (2008), *Intellectual capital accounting. Practices in a developing country*, Routledge, New York.
- Abeysekera, I. & Guthrie, J. (2005), "An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka", *Critical Perspectives on Accounting*, vol. 16, no. 3, pp. 151-163.
- Amir, E., Lev, B. & Sougiannis, T. (2003), "Do financial analysts get intangibles?", *European Accounting Review* vol. 12, no. 4, pp. 635-659.
- Arvidsson, S. (2003), "Demand and Supply of information on intangibles: The case of knowledge-intensive companies", 6 November 2003, (Doctor of Philosophy) Lund University, Sweden.
- Barker, R. G. (1999), "The role of dividends in valuation models used by analysts and fund managers", *European Accounting Review*, vol. 8, no. 2, pp. 195 - 218.
- Barth, M. E., Kasznik, R. & McNichols, M. F. (2001), "Analyst coverage and intangible assets", *Journal of Accounting Research*, vol. 39, no. 1, pp. 1-34.
- Boczko, T. (2000), "A critique on the classification of contemporary accounting: towards a political economy of classification - The search for ownership", *Critical Perspectives on Accounting*, vol. 11, no. 2, pp. 131-153.
- Boni, L. & Womack, K. L. (2003), "Wall Street research: Will new rules change its usefulness?" *Financial Analysts Journal*, vol. 59, no. 3, pp. 25-29.
- Bozzolan, S., Favotto, F. & Ricceri, F. (2003), "Italian annual intellectual capital disclosure: An empirical analysis", *Journal of Intellectual Capital*, vol. 4, no. 4, p. 543.
- Buhr, N. (1998), "Environmental performance, legislation and annual report disclosure: The case of acid rain and Falconbridge", *Accounting, Auditing & Accountability Journal*, vol. 11, no. 2, pp. 163-190.

- Bukh, P. N. & Nielsen, A. C. (2006), "The supply and demand for strategic information: A case study of a large medical device company", (Working paper), Aarhus School of Business, Denmark.
- Burgman, R. & Roos, G. (2007), "The importance of intellectual capital reporting: evidence and implications", *Journal of Intellectual Capital*, vol. 8, no. 1, pp. 7-51.
- Carpenter, R. (2005), "Taking stock of analysts", *Director*, vol. 59, no. 2, pp. 62-65.
- Chaney, P. K., Hogan, C. E. & Jeter, D. C. (1999), "The effect of reporting restructuring charges on analysts' forecast revisions and errors", *Journal of Accounting and Economics*, vol. 27, no. 3, pp. 261-284. .
- Cooper, D. (1980), "Discussion of towards a political economy of accounting", *Accounting, Organizations and Society*, vol. 5, no. 1, pp. 161-166.
- Daley, J. (2001), "The intangible economy and Australia", *Australian Journal of Management*, vol. 26 (Special issue), pp. 4-19.
- Das, S., Levine, C. & Sivaramakrishnan, S. (1998), "Earnings predictability and bias in analysts' earnings forecasts", *Accounting Review*, vol. 73, no. 2, pp. 277-294.
- Epstein, M. J. (1975), *The usefulness of annual reports to corporate shareholders*, California State University Press, Los Angeles.
- Flöstrand, P. (2006), "The sell side - Observations on intellectual capital indicators", *Journal of Intellectual Capital*, vol. 7, no. 4, pp. 457-473.
- Flöstrand, P. & Ström, N. (2006), "The valuation relevance of non-financial information", *Management Research News*, vol. 29, no. 9, pp. 580-597.
- Fogarty, T. J. & Rogers, R. K. (2005), "Financial analysts' reports: An extended institutional theory evaluation", *Accounting, Organizations & Society*, vol. 30, no. 4, pp. 331-356.
- Galanti, S. (2006), "Which side are you on? How institutional positions affect financial analysts' incentives", *Journal of Economic Issues*, vol. XL, no. 2, pp. 387-394.
- García-Ayuso, M. (2003), "Intangibles, lessons from the past and a look into the future", *Journal of Intellectual Capital*, vol. 4, no. 4, pp. 597-604.
- García-Meca, E. (2005), "Bridging the gap between disclosure and use of intellectual capital information", *Journal of Intellectual Capital*, vol. 6, no. 3, pp. 427-440.

Guthrie, J. & Parker, L. (1990), "Corporate social disclosure practice: A comparative international analysis", *Advances in Public Interest Accounting*, vol. 3, pp. 159-175.

Guthrie, J. & Petty, R. (2000), "Intellectual capital: Australian annual reporting practices", *Journal of Intellectual Capital*, vol. 1, no. 3, p. 241.

Guthrie, J., Petty, R. & Johanson, U. (2001), "Sunrise in the knowledge economy", *Accounting, Auditing & Accountability Journal*, vol. 14, no. 4, pp. 365-382.

Healy, P. M. & Palepu, K. G. (2001), "Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature", *Journal of Accounting and Economics*, vol. 31, no. 1-3, pp. 405-440.

Henry, P. (1985), *Peripheral Capitalism and Underdevelopment in Antigua*, Transaction Books, New Brunswick, NJ.

Holland, J. (2001), "Financial institutions, intangibles and corporate governance", *Accounting, Auditing & Accountability Journal*, vol. 14, no. 4, pp. 497-529.

Holland, J. (2006), "Fund management, intellectual capital, intangibles and private disclosure", *Journal of Intellectual Capital*, vol. 32, no. 4, pp. 277-316.

Holland, J. & Johanson, U. (2003), "Value-relevant information on corporate intangibles-creation, use and barriers in capital markets – 'between a rock and a hard place'", *Journal of Intellectual Capital*, vol. 4, no. 4, pp. 465-486.

Hong, H., Kubik, J. & Solomon, D. (2000), "'Security analysts' career concerns and herding of earnings forecasts", *Rand Journal of Economics*, vol. 31, no. 1, pp. 121-144.

Hunter, L., Webster, E. & Wyatt, A. (2005), "Measuring intangible capital: a review of current practice", (Working Paper) Intellectual Property Research Institute.

Jackson, P. (1982), *The Political Economy of Bureaucracy*, Phillip Allan, Oxford.

Johansson, J. (2007), "Sell-side analysts' creation of value - key roles and relational capital", *Journal of Human Resource Costing and Accounting*, vol. 11, no. 1, pp. 30-52.

Lang, M. H. & Lundholm, R. J. (1996), "Corporate Disclosure Policy and Analyst Behavior", *Accounting Review*, vol. 71, no. 4, pp. 467-492.

Lev, B. & Zarowin, P. (1999), "The boundaries of financial reporting and how to extend them", *Journal of Accounting Research*, vol. 37, no. 2, pp. 353-385.

Li, X. (2005), "The persistence of relative performance in stock recommendations of sell-side financial analysis", *Journal of Accounting and Economics*, vol. 40, no. 1-3, pp. 129-153.

Mouritsen, J. (2003), "Intellectual capital and the capital market: the circulability of intellectual capital", *Accounting, Auditing & Accountability Journal*, vol. 16, no. 1, pp. 18-30.

Nielsen, C. (2004), "Through the eyes of analysts: a content analysis of analyst report narratives", (Working paper), Aarhus School of Business, Denmark.

Previts, G. J., Bricker, R. J., Robinson, T. R. & Young, S. J. (1994), "A Content Analysis of Sell-Side Financial Analyst Company Reports", *Accounting Horizons*, vol. 8, no. 2, pp. 55-70.

Puxty, A. G., Willmott, H. C., Cooper, D. J. & Lowe, T. (1987), "Modes of regulation in advanced capitalism: Locating accountancy in four countries", *Accounting, Organizations and Society*, vol. 12, no. 3, pp. 273-291.

Schipper, K. (1991), "Commentary on analysts' forecasts", *Accounting Horizons*, vol. 5, pp. 105-121.

Shields, M. D. (1997), "Research in Management Accounting by North Americans in the 1990", *Journal of Management Accounting Research*, vol. 9, pp. 3-61.

Sveiby, K. E. (1997), *The New Organisational Wealth: Managing and Measuring Knowledge Based Assets*, Berrett-Koehler, San Francisco, CA.

Toms, J. S. (2002), "Firm resources, quality signals and the determinants of corporate environmental reputation: Some UK evidence", *British Accounting Review*, vol. 34, no. 3, pp. 257-282.

Watts, R. & Zimmermann, J. (1986), *Positive Accounting Theory*, Prentice Hall, Englewood Cliffs, NJ.

Zhang, X. F. (2006), "Information Uncertainty and Analyst Forecast Behavior", *Contemporary Accounting Research*, vol. 23, no. 2, pp. 565-590.