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Abhayawansa, Subhash; Abeysekera, Indra

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Intellectual capital disclosure from sell-side analyst perspective

by

Subhash Abhayawansa

Faculty of Business & Enterprise

Swinburne University of Technology, Australia

and

Dr. Indra Abeysekera

Discipline of Accounting

The University of Sydney, Australia

Abstract

Purpose – Research in the use and 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 information in communicating firm value, to introduce possible theoretical frameworks to interpret the findings of such studies, and to propose methodological developments.

Design/methodology/approach – The paper argues the need to look at IC from the perspective of sell-side analysts, and then advocates the use of several theoretical frameworks to enrich our current understanding of the role of IC as used/disclosed by sell-side analysts. Thereafter, 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, the IC information that analysts disclose cannot be taken at its face value. Issues of signalling, analysts' incentives and influences, the political economy view, and globalisation are introduced in this paper 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. Both theory and method triangulation could enhance research dealing with IC information use/disclosure by sell-side analysts.

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

Originality/value – Extant research into the use of IC information by sell-side analysts lacks a theoretical framework and is restricted to single method studies using either content analysis or case study interviews. This paper is the first attempt to propose possible theories for interpreting the findings of these studies and to suggest how to overcome methodological problems.

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

Paper type – Conceptual

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 and 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 (IC¹) than in tangible assets (Daley, 2001; García-Ayuso, 2003; Guthrie et al., 2001; Petty and Guthrie, 2000). 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 (Ashton, 2005; Bornemann and Leitner, 2002; Stewart, 1997).

Guthrie et al. (2001) identified three evolving IC missions: (1) 'developing systems for creating, capturing and disseminating IC within organisations' for internal strategic decision-making, (2) 'establishing new measures, and (3) 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.

¹ The literature commonly describes IC as including external (relational) capital, internal capital (structural) capital and human (competence) capital. Abeysekera and Guthrie (2005) provide a more 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 (Eccles and Mavrinac, 1995; Holland, 2003; Holland and Johanson, 2003; Mavrinac and Siesfeld, 1998).

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 the asset portfolio of that institutional investor. Sell-side analysts are commonly accepted as capital market intermediaries and sophisticated information users to whom corporate information should be directed (Buzby 1974; Schipper 1991). The status of sell-side analysts in the market for information makes them and their work important subjects for research.

IC disclosure 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 (2006, 2001), 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 and 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 discusses the importance of studying IC from the perspective of sell-side analysts attempting to disclose IC in their reports. Section 3 reviews a number of theories that can enrich research on IC use and 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. IC and sell-side analysts

Schipper (1991) contends that sell-side analysts are among the primary users of accounting information and represent an important group in financial reporting. Sell-side analyst reports are a primary source of information for buy-side analysts (2005; Holland, 2006; Holland and Johanson, 2003). Individual investors use such information, obtained either directly or through sell-side analyst reports, to make security evaluation decisions (Marcus and Wallace, 1991). The importance of sell-side analysts in the demand side of the market for corporate information has

underpinned the body of literature on analysts' decision processes, with sell-side analysts' valuation of firms as a market proxy (Schipper, 1991).

The role of sell-side analysts involves more than calculating financial ratios (Fridson, 1997) 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 the market price through the work of sell-side analysts. In this context, a number of studies have been conducted on the use of non-financial information (Breton and Taffler, 2001; Fogarty and Rogers, 2005; Previts et al., 1994; Rogers and Grant, 1997) and IC information (Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005; García-Meca and Martínez, 2005; Nielsen, 2004) 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.

For sell-side analysts, a vital information source about firms is their public documents (Arnold and Moizer, 1984; Fogarty and Rogers, 2005). In the context of IC, external disclosure by companies has been argued and discussed since the late 1980s (Petty and Guthrie, 2000), as evidenced by the early works of Sveiby (1989). This topic was formally recognised by the accounting profession by the appointment of the Jenkins Committee of the American Institute of Certified Public Accountants (AICPA, 1994; Ashton, 2005; Wallman, 1995) 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 by researchers and firms in many parts of the world in supplying IC information in public documents.

Contributions to the IC disclosure literature in Australia (Guthrie, 2001; Guthrie and Petty, 2000; Guthrie et al., 1999), Canada (Bontis, 2003; Carnaghan, 1999), Denmark (Arvidsson, 2003; Bukh et al., 2005), Finland (Arvidsson, 2003), France (Vergauwen and van Alem, 2005), Germany (Vergauwen and van Alem, 2005), Hong Kong (Petty and Cuganesan, 2005), Italy (Bergamini and Zambon, 2002; Bozzolan et al., 2003), Ireland (Brennan, 2001), Japan (Nielsen et al., 2005), Malaysia (Goh and Lim, 2004), Netherlands (Vandemaele et al., 2005; Vergauwen and van Alem, 2005), Norway (Arvidsson, 2003), Portugal (Oliveira et al., 2006) Singapore (Firer and Williams, 2005), South Africa (April et al., 2003), Spain (García-Meca and Martínez, 2005; Oliveras and Kasperskaya, 2005), Sri Lanka (Abeysekera and Guthrie, 2005), Sweden (Arvidsson, 2003; Vandemaele et al., 2005), UK (Citron et al., 2005; Vandemaele et al., 2005; Williams, 2001), and the USA (Abdolmohammadi, 2005) are notable in examining the supply-side of IC 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 (Kaplan and Norton, 1992; Kaplan and Norton, 1996), Skandia Business Navigator (Edvinsson and Malone, 1997), Invisible Balance Sheet (Sveiby, 1989, 1997, 2005), and Technology Broker (Brooking, 1996), the result of the work of proponents in this domain, have assisted information

suppliers such as sell-side analysts, although the utility of some of these tools has mainly been in internal strategic decision-making.²

Barth et al. (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 (Abeysekera and Guthrie, 2005; Guthrie and Petty, 2000; Sujan and Abeysekera, 2007), evidence suggests that firms disclose much less IC-related information than what analysts expect (Carnaghan, 1999; García-Ayuso, 2003).

Some IC items 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 (Holland, 2003), and the value of IC is entangled with other assets (Mouritsen, 2003).

Firm-specific IC items contribute heavily to the beta risk factor,³ with the variation in value creation being benchmarked by firm and industry forces, whereas less firm-

² See Sveiby (2005) for a comprehensive list of IC measurement models. Tan (2007) also provides a list of references on several IC measurement models.

specific IC items contribute lightly to the beta risk factor, with the firm having less control over value creation. Since the importance of IC items can change over time for value creation in a firm, these changes contribute to changing firm-specific risks over time. There are quantifiable factors contributing to the beta risk factor (e.g. level of market capitalisation of shares of the firm, riskiness of the industry sector, errors in measuring industry sector changes), that determine variations in aspects of value creation (Bennett and Sias, 2006). However, the difficulty of quantifying IC items for value creation restricts statistical analysis of longitudinal changes in the value creation process, posing a challenge to sell-side analysts in disseminating an accurate evaluation of IC information.

The difficulty of valuing IC items 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 (Livant and Santicchia, 2006) and cash flow (Govindarajan, 1980; Sloan, 1996), on aspects of value creation.

Valuation relevance (Flöstrand and Ström, 2006) 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 and Ström, 2006). Therefore, analysing IC information disclosed in sell-side analysts'

³ Two risk factors, the alpha factor and beta factor, determine the relative return. The alpha factor is the relative return generated in excess of the benchmark return set by the firm's management (Kozhemiakin, 2006).

reports can provide evidence of the usefulness of IC information in firm value creation. The literature on IC disclosure in sell-side analyst reports is mainly driven by this motivation. Studies investigating IC information use and disclosure by sell-side analysts, using content-analysis of their reports presented to the investing community, are increasing (see Arvidsson, 2003; Breton and Taffler, 2001; Flöstrand, 2006; García-Meca, 2005; García-Meca and Martínez, 2005; Nielsen, 2004; 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; Garcia-Meca, 2005). None of these studies has used a theoretical framework to understand and interpret the findings of frequency of IC disclosure in analyst reports.

Given the apparent lack of theoretical underpinning and explanation in the literature on the IC information use and disclosure behaviour of sell-side analysts in their reports, we introduce in this section four theoretical models to enrich research in this area. These are signalling, analyst 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 (Erdem and Swait, 1997; Spence, 2001; Watts and Zimmerman, 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 et al. (2005) explain that a prime motivation for external disclosure of IC is signalling expected future growth of the firm to external stakeholders.

Depending on whether signals meet certain conditions, stakeholders will believe some signals to be true and reject others. 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. 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).

Bozzolan et al. (2003) contend 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 (Ferguson et al., 2002; Meek et al., 1995). It is worthwhile to use this interpretation to observe how sell-side analysts disclose IC information in their reports.

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. They improve market efficiency by reducing information asymmetry and increasing the speed with which information is reflected in the market price (Healy and Palepu, 2001, Barth et al., 2001).

The role of sell-side analysts is pertinent to disseminating IC information about firms, given the exponential growth of knowledge-based firms (Romer, 1998) and the growing demand for knowledge-based products and services in the global economy (King and Ranft, 2001). The fact that buy-side analysts trade upon the share recommendations of sell-side analysts and achieve superior performance (Chen and Cheng, 2006; Li, 2005) justifies this claim.

Signalling originates within the firm. Signals are often country-specific (Hallet al., 2004). Sell-side analysts as information intermediaries may redirect signal through their reports to the wider audience. Since sell-side analysts are more than mere information providers (substituting firm provided information) (Lang and Lundholm, 1996), and these signals may be modified and complemented by the analysts' own interpretations and additional information. Credibility of the signal and the incentive for management to signal may influence the level of IC information used by the sell-side analysts. These conditions may also dictate analysts' IC information sources. Future research could examine how signalling theory can interpret both the use and actual disclosure of IC information by sell-side analysts.

3.2. Analyst 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. It 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 and Roos, 1997; Wayman, 2002), or at the macro level by the wider institutional framework in which the sell-side analysts operate.

Despite sell-side analysts helping to improve market efficiency, some studies highlight an optimism bias in their earnings forecasts and stock recommendations. For instance, Chaney et al. (1999) found that though analysts revise their earnings forecasts downward following a restructuring charge the revision does not fully incorporate the negative signal from the restructuring change, suggesting analyst optimism. Evidence suggests that sell-side analysts issue more buy recommendations than hold or sell recommendations, again indicating analyst optimism (Fogarty and Rogers, 2005; Galanti, 2006; Michaely and Womack, 1999). Further, Francis and Philbrick (1993) found that relatively optimistic earnings forecasts accompany less favourable stock recommendations in analysts' reports.

Analysts' optimism bias is attributed to their incentives, which are partially influenced by stockbroking firms' dependency on market actors for revenue (Carpenter, 2005). Stockbroking firms generate income as commission from trading volume and as fees from investment banking business such as underwriting new security issues. Since the analysts' reward system is aligned with revenue generation for the stockbroking firm,

analysts issue optimistic forecasts and recommendation that facilitate such activities (Dechow et al., 2000; Dugar and Nathan, 1995; Lin and McNichols, 1998).

This bias is attributed to the 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 (Daset al., 1998; Francis and Philbrick, 1993). In this light, analysts tend to trade off accuracy in forecasts and recommendation, to a certain extent, for access to private information. Anecdotal evidence as to the characteristics of optimism bias further explains the power play between analysts and company management. Lim (2001) reports that firm size, analyst following, and size of the analyst's stockbroking firm can reduce analyst optimism due to the uncertainty associated with target firms' earnings, increase optimism. This suggests that greater competition among analysts and greater power of the stockbroking firm⁴ in influencing investor opinion play a significant role in changing the balance of power from the firm to the analyst.

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. For instance, Hong et al. (2000) found that less experienced analysts were more likely to lose their job for making a decision to deviate from the consensus forecast.

⁴ Larger stockbroking firms have a reputation which attracts investors to trade with them. Hence these firms may be more inclined to protect their reputation via unbiased forecasts (Jackson, 2005). Further, companies would not be willing to risk [the coverage] [not sure what is meant here – can you rephrase?] by such firms due to their power in the market.

The literature supports the view that retail investors and buy-side analysts have different expectations from sell-side analysts (Walker, 2006; Wayman, 2002). 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 and Womack, 2003). 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 analyst incentives and the power-plays between stockbroking firms, institutional investors, companies followed by and/or serviced by the analyst's stockbroking firm, and individual analysts, and the resulting deception of retail investors who consume sell-side analyst 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 et al., 2003; Ballester et al., 2003).

3.3. Political economy of accounting view

The recommendations made by sell-side analysts are about capital: to retain, move out, or move in. Capital is more than a mere collection of transferable resources. From a critical perspective, capital is an institutional system through which firms differentiate technology and organisational structures are progressively developed (Clegg and Dunkerley, 1980).

The nature of capital accumulation in the economic environment has changed due to chaotic searching for profits, new products and markets, new technologies, new spaces and locations, and new processes of firms. It is imprudent to analyse capital as if it were immobile and attached to particular activities and firms, considering its increasing mobility (Holloway, 1994). The transience of capital makes it imperative for firms to convince shareholders to remain with the most value-creating firm, and this is an activity in which firms can collaborate with sell-side analysts through their recommendations.

From the viewpoint of political economy, this 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, pp. 131–153).

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 and Parker, 1990). Abeysekera and Guthrie (2005) 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. Further, 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 within their accounting reports, from their perspective, to mediate, suppress, mystify

or transform such tension (Guthrie and Parker, 1990).⁵ Disclosure of information on firms' IC is possibly a means towards this end. This tension may be analysed with reference to market forces (capital or economic), bureaucratic controls (state or political), and spontaneous solidarity (community or social). The tension, and the way sell-side analysts set and shape their agenda to reduce it, can be better understood by examining the motivations that lead to the disclosure of IC information in sell-side analyst reports (Puxty et al., 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 (Cox, 1996; Fligstein, 2001; Pierson, 1998; Rodrick, 1997), 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 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 (Cheng et al., 2006).

⁵ Proactiveness of firms in disclosing information distinguishes the political economy view from legitimacy theory (Abeysekera and Guthrie, 2005; Guthrie and Parker, 1989)

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 analyst reports of internationally listed companies disclosed more intangibles information than analyst 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 (Amin, 1976; Henry, 1985). The peripheral capitalism perspective helps us understand the role of sell-side analysts in IC disclosure practices 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 (Livant and Santicchia, 2006) using data available from external databases (Bennett and Sias, 2006; Chen et al., 2006). Studies investigating non-financial and IC information use and disclosure by sell-side analysts have primarily relied upon content analysis methodology (see Arvidsson, 2003; Flöstrand, 2006; García-Meca, 2005; García-Meca and Martínez, 2005; Nielsen, 2004). 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 (see Bukh, 2007; Johansson, 2007).

Although many authors have been quick to commend content analysis for producing objective, systematic and reliable data analysis (Guthrie and 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 careful planning of research.

One major limitation associated with the content analysis method is the subjectivity involved in the coding process (Deegan and Rankin, 1996; Frost and Wilmshurst, 2000). For instance, the method is heavily reliant on the integrity of the coder or researcher. None of the studies of 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.

The literature dealing with sell-side analysis often overlooks the possibility that results may differ depending on the scale applied for counting. Common scales used for counting include the nominal, ordinal, interval and ratio scales. The purpose of an ordinal scale in this context is to ascertain IC disclosure trends through frequency. A nominal scale establishes the median and interval of IC disclosure. The ratio and interval scales are used to quantify the distance between IC disclosure items (Carney, 1972, pp. 153–154).

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 analyst 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 regard to the context in which words appear (e.g. 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 (Weber, 1990). 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. However, the issue of graphic material is irrelevant in analysing sell-side analyst reports as such items are not found therein.

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 analyst 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 a disclosure index is operationalised in content analysis. One variant of content analysis methodology records the frequency of disclosure of each index item appearing in the source document. According to this method, the importance of a particular item relative to others is interpreted by its total frequency count of the whole sample. In the other variant, source documents are searched for the presence 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 initial coverage and recurrent analyst reports. Initial 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 analyst reports was positively associated with the number of IC indicators disclosed. Research that does not distinguish between recurrent and initial 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 analyst reports is selected. Most studies analyse a large sample of analyst reports on an equally large number of companies. In contrast, Nielsen (2004) examined 12 analysts' reports written on one particular company.

Another method used in sell-side analyst studies in the context of IC disclosure, although to a limited extent (Bukh, 2007), is case-study interviews. However, as McKinnon (1988) pointed out, the validity and reliability of case-study interviews can be compromised by five factors, all of which are applicable to the studies of Bukh (2007) and Johansson (2007). These factors are: observer-caused effects, interviewer-bias effects, data access limitations, complexities and limitations of the human mind, and low objectivity.

First, respondents can change their behaviour in interviews, giving rise to observer-caused effects. Respondents may not be factual in their answers, as they also have their own 'agendas' in answering interview questions (Goddard and Powell, 1994). Second, interviewer-bias effects can affect the registering, interpreting and coding of the interview. Third, interviews can yield limited quality and quantity of data because data-gathering is restricted to the period of the interview. Fourth, researchers cannot take statements made by respondents at their face value, because of the complexities and limitations of the human mind. It is possible that sell-side analysts as respondents can consciously seek to mislead or deceive researchers about information. Even if respondents attempt to reply to the questions as honestly and accurately as possible, their statements can still be affected by natural human tendencies and weaknesses.

Fifth, the interview method relies heavily on the experience and intellectual honesty of the researcher due to the very nature of the method (McKinnon, 1988). The above-mentioned factors can influence the quality of results and interpretation of research into IC-based sell-side analysts' behaviour.

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. Combining these two methodologies can enhance our understanding of the use and disclosure of IC information by sell-side analysts. Prior research into information use by sell-side analysts has used multiple methods within studies (Barker, 1998; Eccles and Mavrinac, 1995; Low and Siesfeld, 1998; SRI International, 1987) and this principle may guide future research into the use of IC information by sell-side analysts. Such between-method triangulation can provide more complete and reliable evidence (Shields, 1997).

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 the empirical literature on the relationship between IC and the market value of firms. In the current economy 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 this 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, the stockbroking firms which employ the analysts, the buy-side analysts, the investment banking clients of the analysts' stockbroking firms, the 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 and 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 their 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 for non-financial information (Abdolmohammadi et al., 2006), and over-optimism (Bradshaw et al., 2006; Gillies, 2006). 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 (Chen and Cheng, 2006; 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, analyst 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 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.

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