

Intellectual Capital Accounting and Contemporary Accounting Practice

Muhammad Zahirul Islam*
Mohammad Nazrul Islam*

Abstract: The measurement and reporting of intellectual capital has recently attracted a growing interest from accounting researchers, promoting a lively and far-reaching debate. Intellectual capital disclosures are pioneering forms of communication that inform internal as well as external readers of the attempts to manage and create value from intellectual resources. It is an effort to progress the project of accounting for intellectual capital and to suggest the adoption of a critical accounting perspective. This would entail exploring the possibilities of intellectual capital providing its own accounts, rather than remaining imprisoned within accounts devised by others.

Keywords: Intellectual capital, Intangible assets, Disclosure.

1. Introduction

Intellectual capital, as well as disclosure of information on intangibles and intellectual capital (IC), has in recent years gained importance. IC has increasingly been seen as an integral part of firms' value-creating processes (Cumby and Conrod 2001; Sullivan 2000) and several reports (e.g. Eustace 2001; FASB 2001; Upton 2001) and researchers (e.g. Eccles *et al.* 2001; Lev 2000) have argued that the demand for external communication of IC is increasing as several companies base their competitive strength and thus the value of their company on know-how, patents, skilled employees and other intangibles. Partly in response to this realization, a discourse and visualization of intellectual capital has emerged and has been accompanied by a push to establish new metrics and other ways that can be used to record and report the value attributable to intellectual capital within an organization (Mouritsen *et al.* 2002).

At the present time, the academic literature on accounting for intellectual capital is rather limited in extent. It is currently the focus of significant discussion and enquiry across the management disciplines and beyond. This reflects the recognition that intellectual capital provides a crucial source of value for the contemporary business enterprise. It is a resource that requires careful management if it is to fulfill its maximum potential. In the case of those businesses whose shares are publicly quoted, the success with which organizations manage their intellectual capital is increasingly mirrored in their market

* Lecturers, Faculty of Business and Economics, Daffodil International University.

values, values that are often many times the book values of enterprises. Bridging the gap between these two values provides one motivation for seeking to account for intellectual capital. Although by no means a new challenge to accountants, and to their traditional measurement and reporting frameworks, the extent of the missing asset values suggests the need for some speedy reflection on their part. Given the importance of managing intellectual capital successfully, accounting is also being challenged to develop new approaches to performance measurement that capture the quality of management evident in the context of intellectual capital.

Interest in the issue of intellectual capital is promoted for many reasons. One focus would have been the impact of intellectual capital on the stock market and valuations of firms. This interest emerged mainly in line with the increasing amount of intangible investments and the high volatility of shares on the stock market. Another reason supporting intellectual capital as a topic of interest is that few years ago there were few studies published that examined the output from intangible investments. Numerous studies have recently been published with interesting findings. Some examples are:

- firms with a high quality in human resource management have a higher market value (Ulrich 1997);
- evidence on the profitability from training investments has been observed in many studies (Jarret 1998; Bassi and van Murren 1999; Ottersten et al. 1999);
- the lack of information on competence investments has been shown to cause an abnormal return on stock investments in competence, intensive firms (Hansson 1997);
- investments in work health programs show in some studies a significant profitability (Pelletier 1993);
- growing number of empirical studies reveal a substantial impact of R&D on productivity and shareholder value (Lev 1999);
- patent attributes are statistically associated with subsequent stock returns and market-to-book ratios (Deng et al. 1999); and
- the disclosure of social information is reported to cause a market reaction (Gray et al. 1995).

Another reason for studying intellectual capital is to understand better the internal dynamics within organizations. The genesis of the modern organization and the rise of an information economy created what are termed the new “knowledge-based” intangibles: organizational structures and processes, know-how, and intellectual and problem-solving capacity.

2. Objectives

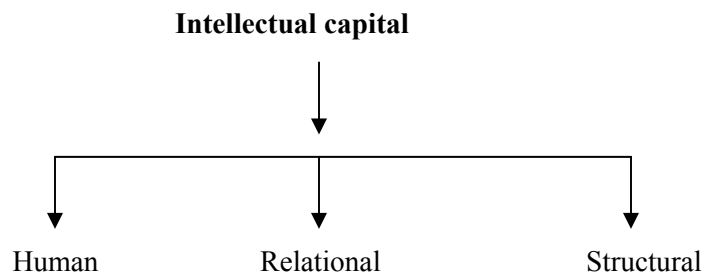
The main objective of this paper is to make an inquest of the intellectual capital literature focusing accounting connection and disclosure in this regards. One of the motivations for this paper is to articulate the overall concepts of intellectual capital and its disclosure. In this paper an effort is made to prepare a simplified presentation of this concept.

3. Methodology

This paper is based on a critical review of existing literature only the issue and deductive reasoning. No empirical attempts were made.

4. Perspective on intellectual capital

Edvinsson (1997) identifies two components of intellectual capital: human capital and structural capital, or more simply, the people in an enterprise and what these people leave behind when they go home (see also Edvinsson and Malone, 1997). In the Skandia value scheme the latter component is viewed as having a variety of elements. Initially it is possible to distinguish between customer capital, including the goodwill that employees have built up over time, customer databases and distribution channels, and organizational capital, which is further divided into innovation capital including both intellectual property and intangible assets, and process capital such as organizational structures and operating procedures. In the case of the human capital component of intellectual capital, Edvinsson distinguishes between the knowledge, skills, competencies and expertise of the employees, and the values, culture and philosophy of the organization, both of which have developed over providing the basis of an enterprise's competitive edge or advantage. Edvinsson recognizes that human capital, unlike structural capital, cannot be owned by the organization. Consequently, it is necessary to ensure that an organization's stock of human capital is managed effectively in order to reproduce, and ideally increase, competitive advantage.



Drawing on a wider range of sources, Lynn (1998a, b) advances a three components model of intellectual capital. Three "classes" of intellectual capital are distinguished. Human capital is represented in the more restricted sense of the know-how, capabilities,

skills and expertise of the human members of an organization. Relational or customer capital is identified as a separate entity, and encompasses “any of the connections that people outside the organization have with it”, together with customer loyalty, market share, the level of backorders, etc. Structural or organizational capital embraces the remaining elements of intellectual capital, including both systems and networks, and cultures and values, together with elements of intellectual property such as patents, copyrights, trademarks, etc. Lynn also recognizes the crucial importance of managing intellectual capital effectively, and offers the view that “a major challenge in managing intellectual capital is to transform [transient] human and relational capital into more permanent structural capital.... [which] can be used, replicated, and improved on over time” (Lynn 1998b). By comparison with Edvinsson, Lynn embraces a more managerialist perspective. Classifying human and relational/customer capital together constitutes an acknowledgement that these elements of intellectual capital cannot be controlled in the same way as organizational capital can be. In order to reduce senior management’s exposure, a premium is placed on the successful transformation of the transient forms of intellectual capital into more permanent, i.e. controllable forms. The availability of relevant measurement metrics has a central role to play here.

Mouritsen (1998) compares intellectual capital with economic value added (EVA) as two significantly contrasting technologies of managing corporate growth and value creation. Economic value added is a financial management system that focuses singularly on the pursuit of investment projects returning superior cash flows, and thus value to shareholders. To do so requires radical decentralization within the enterprise and the installation of a process of empowerment, the result of which is to identify local business unit managers as the movers of change, the new organizational heroes. While intellectual capital as a technology also focuses on value creation and growing shareholder wealth, it breaks fundamentally with the financial database that economic value added shares with other financial management approaches. The intellectual capital mindset is that of organizational learning and competence enhancement, the consequence of which is decentralization to employees who “are called on to directly interact with customers in flat organizations where uncertainty and dynamic conditions make the pretense of top-management omniscience absurd” (Mouritsen 1998). Likewise, the measurement of intellectual capital and its reporting will be characterized by a greater degree of looseness and a lack of uniformity. Such statements (or “Stories”) must be inherently provisional, informed by current circumstances, and above all, must have relevance for those whose experiences they seek to represent.

5. The accounting connection

What interests accountants about intellectual capital is its simultaneous presence and absence in their day-to-day professional activities. Charged with the task of providing information on the health, or otherwise, of the business entity, accountants have developed a vast framework for measuring, recording and reporting its operations and transactions. The financial statements that accountants periodically produce are designed to provide an accurate, reliable estimate of the value of the business entity. In recent times, however, a second estimate of the value of the business has assumed a growing significance that determined not by accountants but by the “market”, i.e. the market value of the business. In an ideal world, the difference between the market value of a business and that arrived at by its own accountants would be minimal. Such discrepancies might reflect the sometimes over-cautious use of the accounting calculus by practitioners, or the derivation of an estimate based on a rather wider and longer term set of considerations by investors. In practice, there have always been cases where a sizable gulf exists between the market and book values of a business, normally due to the limitations associated with the prevailing accounting framework that prohibits the reporting of any goodwill that an organization has developed over time. While the market recognizes the extent of this “asset”, and values it accordingly, the business itself is unable to. Accountants are free to speculate on the value of any “home grown” goodwill, however, not least because they need to be in a position to determine the credibility of any offer to acquire the business by third parties, who in turn are able to report purchased goodwill in their own financial statements.

During the past decade a major change has occurred in respect of the market value/book value relationship. It has become more common place for the market to value some leading edge businesses at many times their reported tangible asset values. One widely quoted case is that of Microsoft, with a 1996 market value 11.2 times its tangible asset value (Lynn 1998a; Dzinkowski 1999). Flamholtz and Main (1999), Davies and Waddington (1999) and Lev (2000) confirm the persistence of this phenomenon. The existence of such multiples can be interpreted as being indicative of the fact that goodwill has been superseded by a potent new source of value creation: intellectual capital. In this way, intellectual capital can be described as the “new” goodwill, something that the business builds up over time, and which provides the major foundation for its continued competitive advantage. Like goodwill, intellectual capital has a strong intangible asset connotation, and with it the difficulties entailed in being able to incorporate intellectual capital into the prevailing accounting framework. Dzinkowski summarizes the position as follows:

Standard accounting models were designed for informing company management and stakeholders on stocks and flows of [financial] value. Most of these are quantifiable and subject to generally accepted accounting principles and practices (GAAP). In

contrast, intellectual capital is a relatively new and enigmatic concept, relating primarily to the intangible, highly mutable assets of the firm. As such, the current accounting model does not adequately capture their value nor represent them in a concise, meaningful format (Dzinkowski, 2000, 32-3).

Accountants know that intellectual capital is present within the business being, in many cases, the key source for the sustained creation of value. Its absence from the financial statements that they are called upon to produce is consequently a potential source of concern for them. Unless they are in position to provide useful information on intellectual capital, their claim to being a key management function is increasingly undermined. Hence Dzinkowski's (2000, 33) observation that:

Accounting for intellectual capital will ultimately require the invention of new financial and management accounting concepts and practices.

6. Practicing intellectual capital accounting

Dzinkowski's observations demonstrate two important features of contemporary accounting practice. First, the desire to cling on to the long established traditions that are associated with financial accounting and reporting, and second, the extent of the danger that the emergence of intellectual capital poses to the whole construction that we recognize as accounting. On the evidence of past events, it is unlikely that financial accounting will be capable of accommodating intellectual capital. It has yet to deal satisfactorily with goodwill. In present only purchased goodwill can be reported in the accounts of the business that acquires it. Goodwill is recognized by the acquirer as an asset from the acquisition date and is initially measured as the excess of the cost of the business combination over the acquirer's share of the net fair values of the acquiree's identifiable assets, liabilities and contingent liabilities [IFRS 3.51]. IFRS 3 prohibits the amortization of goodwill. Instead goodwill must be tested for impairment at least annually in accordance with IAS 36 Impairment of Assets [IFRS 3.54]. It is not possible to report any increase in the value of purchased goodwill in the accounts of an acquiring company. To do otherwise would introduce an inconsistency of treatment with other forms of non-purchased goodwill.

To begin to reverse such a tradition would necessitate an acceptance that it is possible to include within the same financial statement objective measures of value, as in the case of tangible assets for which there are historical expenditures, and subjective measures of value, in relation to the intangible assets that constitute goodwill. Making the balance sheet balance would also require the introduction of a new category of unrealized reserves, albeit likely to become realized in the event of disposing of the business. The seeming anomaly of investments being included in a balance sheet at current market value offers little assistance in this respect. In the case of such investments, an active

market is acknowledged to exist, something that might be more difficult to argue in the case of many of the constituents of the goodwill claimed by a particular business entity. Logically, if similar markets existed for the various elements of goodwill, they could no longer be claimed to have this status.

If goodwill continues to prove problematic for financial accounting and reporting, intellectual capital as the new goodwill serves to multiply the difficulties involved. Intellectual capital assumes many more forms than does goodwill, and while both concepts are ultimately open-ended, several years of thinking about intellectual capital have confirmed its greater breadth and depth. One consequence of this is that we might now think in terms of degrees of intangibility, so that while brands, patents and know-how still count as intangible assets, customer data, distribution channels and employee qualification profiles are more intangible. Off the scale are such assets as employee commitment, organizational culture and corporate values, yet it is just such assets that ensure that some businesses exhibit impressive market-to-book value ratios. The more intangible the asset, the greater the subjectivity associated with valuing it, the less admissible it is within conventional financial statements. Consequently, the more reliant an organization becomes on its stock of intellectual capital, the less use its financial accounting and reporting procedures are for representing the health of the enterprise.

This should come as no surprise to anyone who has followed the history of accounting for the worth of employees, a second long-established pursuit closely related to the intellectual capital/accounting problematic. In the mid-1960s Hermanson set about the task of accounting for people, employing the term human asset accounting to identify his attempt to bring people into formal financial statements (Hermanson, 1964). Hermanson reasoned that to omit human assets from accounting reports was indicative of major shortcoming on the part of the profession, particularly as the contribution of people was becoming increasingly crucial to the future success of any organization. In retrospect, Hermanson's observations were consistent with the emergence of a new phase of societal development, soon to be referred to as the post-industrial society (Touraine 1971; Bell 1974). Dismissing the observation that human assets differed from the other types of asset because they were not owned by the business (human capital), Hermanson identified the principal stumbling block as determining an appropriate model for valuing such assets. This was to set the tone for much of the subsequent history of accounting for the worth of employees, and serves as warning to anyone minded to take up the challenge of accounting for intellectual capital (Cahill and Myers 2000).

Human resource accounting was soon to emerge as a more encompassing programme of accounting for the human factor. The term itself was coined by Flamholtz and his colleagues in their 1968 paper reporting on developments at the R.G. Barry Corporation,

and marks a shift in emphasis away from a narrow concern with reporting asset values. For Flamholtz, the significance of human resource accounting was that it recognized the necessity of providing management with the information it needed to manage people more effectively. Consequently, Flamholtz fashioned an approach to accounting for the worth of employees more in the vein of management accounting rather than financial reporting (Flamholtz 1974, 1985, 1999). Although at times he is at pains to emphasize that human resource accounting should be viewed as a way of thinking about people as valuable organizational resources (Flamholtz 1989), most of his work focuses on the development of cost and revenue information that is to be used to inform the decision-making, planning and control process. In this respect, human resource accounting differs from the narrow concern of “putting people on the balance sheet” commonly associated with it (Flamholtz 1985). With hindsight, however, like much of the management accounting developed in the 1970s, human resource accounting remained imprisoned within the paradigm underpinning financial accounting and reporting. The information it provides, the models that underpin it and the time frames it embraces are all commensurate with the prevailing financial mindset of periodic reporting, short termism and a “hard” accounting calculus (Roslender 1997).

Accounting for the worth of employees lay dormant for much of the 1980s, although its underlying challenge continued to attract interest from academics and practitioners (ICAS 1988; Scarpello and Theeke 1989). In an attempt to rejuvenate the topic, Roslender and Dyson (1992) proposed human worth accounting as a third approach (see also Roslender 1997). Central to human worth accounting is the idea that businesses will be keen to retain the services of those employees who are able to add significant value to the enterprise. On the one hand this is argued to reflect the maxim, increasingly popular since the emergence of the excellence literature of the early 1980s that “people are our most valuable asset”. On the other, if businesses are to pursue some valuation methodology for such employees, retention values would seem to promise the greatest insight. Values of this sort would, of course, be fundamentally subjective in nature, characteristically “soft” in form, and largely incommensurate with the philosophy of hard, number-based financial reporting. Equally, such excursions into the realms of non-financial reporting would resonate with aspects of the emergent tradition of accounting for strategic positioning, and scorecarding (Roslender 1995, 1997).

In parallel, human resource costing and accounting has been advanced by a group of Swedish academics based at Stockholm Business School (Grojer and Johanson 1998; Johanson and Mabon 1998). The emphasis of human resource costing and accounting is on the management of human resources rather than on accounting for them. Although it marries human resources accounting and utility analysis, the objective is to generate information that is of value to senior management who are themselves challenged to

make the most effective use of the stock of human resources at their disposal. Some of this information is characteristically hard in nature, as a result of the utility analysis dimension. Nevertheless, there is no pretence that it is possible, nor desirable, that human resources should be reported through the balance sheet. The objective of the exercise of human resource costing and accounting is to promote a significantly changed outlook among senior management, including learning and the appreciation of a more holistic perspective on the business and the contribution that the employee makes to it. In this respect it exists as a complement to the more qualitatively oriented human worth accounting approach, sharing with it a defining shift away from the hard financial (reporting) emphasis of both human asset and human resource accounting.

Taken together with the earlier observations on the difficulty that financial accounting and reporting have with the related topic of goodwill, the conclusion must be that if we are to be successful in accounting for intellectual capital, we should not expect too much from the models of accounting that are most familiar to us. Other commentators have already arrived at similar conclusions.

7. Conclusion

Intellectual capital is concerned with value creation for the long-term development of capabilities and competencies, which are said to be needed in a society of demanding customers and empowered employees. The numbers in intellectual capital statements are not a coherent whole beyond the justification found in sketches, metaphors and stories that connect intellectual capital to a future.

Intellectual capital statements do not attempt to form one bottom-line expression of value. Rather, they attempt, through networks of sketches, stores and numbers, to form paths along which new value-creating activities can be supported. Sketches about the management of relations between employees, customers, technologies and organizational routines and procedures; stories about the effects of bundles of human capital, structural/organizational capital and customer capital; and configurations of loosely coupled numbers that accompany and make the implementation of the story-line accountable and thus serious. These constitute in concert the “unmediated mediators”, which craft the leaps whereby employees can help to identify and solve the firm’s problems. Obviously, there are mediators (sketches, stories and numbers), but they are more or less “unmediated” because they do not claim to uncover a hidden truth about the value of intellectual capital. In contrast, they are always tangential to value creation and are powerful only to the extent that they bring the disclosure of intellectual capital on. They are thus “unmediated” because their “content” has to be determined in use.

Intellectual capital statements are media of expressive firms. Through storytelling and a variety of different inscriptions intellectual capital incorporates an aesthetic dimension to account for the direction of corporate activities. A whole range of different elements is lined up in the Skandia narrative of the tree. Through the story of the tree employees are offered roles, feelings, and ways of relating themselves to the technologies, the customers and even the financial result of the company in the metaphoric language of the intellectual capital statement. Through suggesting that capital is a process rather than a stock, it claims that assets come in bundles or in networks of relationships, and that they cannot be separated without loss of value. The constant attempt to subsume individual capital under structural or organizational capital illustrates that management is important in organizing, fostering and enhancing intellectual capital to make it productive.

The interplay between stories, sketches and numbers is important: stories provide the promise of mechanisms by which intellectual capital is allowed to work. Sketches provide the wholeness that legitimates a certain set of numbers. Numbers, in turn, provide seriousness because they allow the promises made to be followed up and acted upon if they are not abided by. Together they outline a whole world, an epic of competitiveness, innovation, intellectual capital, and value and value creation. The sketches and the numbers of the intellectual capital statements are directed both at inscribing competencies to the characters of the stories and stabilizing relations between them, thereby not just “reporting” on past events, but actively offering a whole version of the world to all related to the company.

8. References

1. Bell, D. (1974). *The Coming of Post-industrial Society: A Venture in Social Forecasting*, Heinemann Educational Books, London.
2. Cahill, D. and Myers, P.J. (2000). Intellectual capital and accounting concepts: unresolved issues in human resource accounting, Mimeo, Royal Melbourne Institute of Technology.
3. Davis, J. and Waddington, A. (1999). The management and measurement of intellectual capital, *Management Accounting (UK)*, Vol. 77, No. 8, pp.34.
4. Deng, Z., Lev, B. and Narin, F. (1999). Science and technology as predictors of stock performance, *Work in Progress*, Stern University, New York, NY.
5. Dzinkowski, R. (2000). The Measurement and Management of intellectual capital, *Management Accounting (UK)*, Vol.78, No.2, pp.32-36.
6. Edvinsson, L. (1997). Developing intellectual capital at Scandia, *Long Range Planning*, Vol.30, No.3, pp.366-373.
7. Edvinsson, L. and Malone, M. (1997). *Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower*, Harper Collins, New York, NY.
8. Flamholtz, E.G. (1985). *Human Resource Accounting*, 2nd ed., Jossey-Bass, San Francisco, CA.

9. Grojer, J.E., and Johanson, U. (1998). Current developments in human resource accounting: reality present – researchers absent, *Accounting, Auditing & Accountability Journal*, Vol. 11, No. 4, pp. 495-505.
10. Hermanson, R.H. (1964). Accounting for human assets, Occasional Paper No. 14, *Bureau of Business and Economic Research*, Graduate School of Business Administration, University of Michigan, Ann Arbor, MI.
11. Kaplan, R.S. and Norton, D.P. (1993). Putting the balanced scorecard to work, *Harvard Business Review*, Vol.71, No.5, pp.134-147.
12. Lev, B. (1999). R&D and capital markets, *Journal of Applied Corporate Finance*, Vol.11, No.4, pp.25-36.
13. Lynn, B.E. (1998a). The Management of Intellectual Capital: The issues and the practice, *Society of Management Accountants of Canada*, Hamilton, Ontario.
14. Lynn, B.E. (1998b). Intellectual capital: key to value-added success in the next millennium, *The CMA Magazine*, Vol.72, No. 1, pp.10-15.
15. Mouritsen, J. (2000). Valuing expressive organizations: intellectual capital and the visualization of value creation, in Schultz, M., Hatch, M.J. and Larsen, M.H. (Eds), *The Expressive Organization*, Oxford University Press, Oxford.
16. Pelletier, K. (1999). A review and analysis of the clinical and cost-effectiveness studies of comprehensive health promotion and disease management programs at worksite: 1995-1998 update, *American Journal of Health Promotion*, Vol.13, pp.333-345.
17. Roslender, R. (1997). Accounting for the worth of employees: is the discipline finally ready to respond to the challenge, *Journal of Human Resource Costing and Accounting*, Vol. 2, No.1, pp.9-26.
18. Roslender, R. and Dyson, J.R. (1992). Accounting for the worth of employees: a new look at an old problem, *British Accounting Review*, Vol.24, No.4, pp.311-329.
19. Scarpello, V. and Theeke, H.A. (1989). Human resource accounting: a measured critique, *Journal of Accounting Literature*, Vol. 8, pp.265-280.
20. Touraine, A. (1971). *The post-industrial Society: Tomorrow's Social History: Classes, Conflicts and Culture in the Programmed Society*, Random House, New York, NY.
21. Ulrich, D. (1997). Measuring human resources: an overview of practice and a prescription for results, *Human Resource Management*, Vol. 36, No.3, pp.303-320.