

Relevance of intellectual capital in Accounting

***Vipul Chalotra**

****Vikas Sharma**

**Assistant Professor, Department of Commerce, University of Jammu.*

***Ph D Scholar, Department of Statistics, University of Jammu.*

ABSTRACT

Accounting for intellectual capital is increasingly recognised to be one of the most enthralling and potentially far-reaching challenges facing the accountancy profession. Till date, many of the most instructive advances have emanated from Skandia, the principal progenitor of intellectual capital accounting. Reports from a number of countries have added to the momentum of the intellectual capital accounting project, intangibles, knowledge management and business reporting. This paper reports and discusses the conceptual analysis of intellectual capital, elements of intellectual capital and various models of intellectual capital. Intellectual capital is widely been recognised as a vital asset of business concerns in the modern era.

Key Words: Intellectual Capital, Accounting.

INTRODUCTION

Intellectual Capital (IC) is seen as a key to business success as it forms the basis of ideas and creativity to perform distinguished services. Intellectual capital and related knowledge resources are much featured items on the agendas of business executives and public policy makers. The growing interest in IC is driven by a broader range of socio-economic changes pertaining to increasingly sophisticated customers, the heave in service based industries, changing patterns of interpersonal activities and the emergence of the network, digital, virtual and interconnected society (Petty & Guthrie, 2000; Ordonez de Pablos, 2002 and Fincham & Roslender, 2003). These socioeconomic changes have implications for how organisations manage their resources and are causing a shift in organisational value drivers, with knowledge resources taking precedence over traditional physical resources (Marr, et al., 2004).

The economic development currently experienced by much of business is characterized by continuous innovation, the spread of digital and communication technologies, the relevance of network forms of organisation, and the prevalence of soft, intangible and human factors in organisations. Firms operating within this so-called Intangible Economy derive much of their wealth from intellectual capital (IC) where the real competitive edge is located in the quality of relationships, structures and people (Segelod, 1998). Knowledge creation, articulation, processing and leveraging have become a central value-creation activity for modern enterprises (Wiig, 1997). As managers become more aware of the role played by intangibles in generating profitable business, new demands are being imposed on management accounting to capture, measure and report IC value and performance (Marr & Chatzkel, 2004). If, as Edvinsson and Sullivan (1996) argue, knowledge-driven firms derive their profits from innovation and knowledge-intensive services, knowledge management requires knowledge measurement. The IC literature in accounting is diverse but mainly addresses external reporting (Bukh et al., 2001; Guthrie, 2000 and Mouritsen et al., 2001a). External financial statements offer very limited information on intangibles (Financial Accounting Standards Board, 2001 and Wallman, 1995).

Others argued that capital markets require more reliable information regarding corporate knowledge resources such as strategic direction, risk factors, experience, integrity and managerial qualities (Eccles et al., 2001) and this is in part being met by intellectual capital information provided through private channels (Holland, 2003 and Garcia-Meca et al., 2005). Management therefore needs to identify, measure, and communicate the value drivers expected to improve information systems, performance measures and resource allocation for investors (Ittner & Larcker, 1998). This suggests that organisations with strong levels of IC have developed management accounting and control systems that support such endeavours. Their is theoretical argument that disclosure of value content information on IC reduces transaction costs and uncertainty (Diamond & Verrechia, 1991; Lev, 1992; Botosan, 1997; Healey et al., 1999 and Leuz & Verrechia, 2000). Roslender and Fincham (2001) observe very little empirical academic literature on how management accounting handles intellectual capital and the practitioner-oriented literature has become repetitive.

Conceptual Analysis of Intellectual Capital

It may be said that intellectual capital deals with particular, reasonable, knowledgeable and substantial fruits of the mind. It claims intangible (tacit) and tangible (explicit) dimensions, which actually complement each other. The conversion of knowledge into a valuable asset has come to be known as an intellectual asset or intellectual capital. In 1994, Klein & Prusak forwarded standard definition of intellectual capital, popularised by Stewart in his book *Intellectual capital: the new wealth of organisations* (Stewart, 1997). According to Klein & Prusak (1994), intellectual capital is operationally as intellectual material that has been formalised, captured and leveraged to produce a higher valued asset. While many authors use the terms “intellectual asset” and “intellectual capital” interchangeably, there are delicate differences between the meanings of the two. In balance sheet terms, intellectual assets are those knowledge-based items that the organisation owns that will produce a future stream of benefits for the organisation. They are the “debits” or individual items that comprise intellectual assets on the balance sheet, whereas intellectual capital is the total stock of balancing “capital” or knowledge-based

equity (credits) that the organisation possesses. Ideally, the total value of intellectual assets should be equal to the total intellectual capital (Lynn, 1998). Intellectual assets are often intangible assets. They do not have a hard shape like property, for example, plants and equipment, nor do they have understandable financial value, as do receivables and short-term investments. Indeed, intellectual assets have been characterised as hidden assets because they are sometimes difficult to identify and to assign an economic value. One way that has been used to uncover and derive the value of this hidden, intangible intellectual capital is to compare the market value of stock to its book value

LITERATURE REVIEW

A growing literature, encompassing theoretical, empirical and practical elements, is currently emerging as researchers and practitioners endeavour to account for the hidden value that the intellectual capital concept denotes, and its pivotal role in the value creation process. Intellectual capital (IC) has been defined by Klein & Prusak (1994) as “packaged useful knowledge”. It basically constitutes knowledge, lore, ideas and innovations (Sullivan, 2000). While earlier writers may not agree on the precise definition of IC, there is broad consensus that it contains human capital, structural capital and relational capital (Bontis, 1998; Edvinsson and Malone, 1997; Edvinsson and Sullivan, 1996; Lynn, 1998; Roos et al., 1997; and Stewart, 1991, 1997). Human intellectual capital (HIC) captures the knowledge, professional skill and experience, and creativity of employees. Structural intellectual capital (SIC) consists of innovation capital (intellectual assets such as patents) and process capital (organisational procedures and processes). Relational intellectual capital (RIC) captures the knowledge of market channels, customer and supplier relationships, and governmental or industry networks. Thus, IC is the possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organisations competitive advantage (CIMA, 2001). Taking an ownership perspective two major components of IC are human capital and intellectual or intangible assets. Whilst human capital cannot be owned by companies, innovations produced through human capital can be transformed into intellectual assets to which they have rights of ownership (Abeysekera & Guthrie, 2004), though this process is inevitably extremely

complex to measure and manage. Its importance was recognised in the Danish contribution to the Meritum Project (Meritum, 2002), which emphasised that people provide the business competence, customer relations, etc., which develop innovations and ensure competitive advantage. Johanson et al. (2001) points out an important part that accounting approaches to IC play in most companies, particularly through the application of rules and routines. This involved greater attention to the incorporation of HIC related items in the balance sheet and profit and loss account. Many authors found greater attention to the formalisation of measurement practices, thus: making ‘tacit’ knowledge about norms (search rules) and activities (routines) explicit and thereby more easily communicated (Johanson et al., 2001).

Intellectual capital management (ICM) is the “direction” of the value-driven transformation of human and relational capital into the structural capital of the organisation. Corporate processes (e.g. recruitment, training and compensation) help foster creativity and innovation. Together with appropriate technology and structural capital they create and share organisational knowledge which, when exploited and applied to external knowledge and relational capital produces corporate competitive advantage. The outputs of knowledge management are innovations or intellectual assets. Intellectual assets such as patents and trademarks are normally legalised in order to obtain legal, propriety rights upon them, producing intellectual property. Together with structural capital (technology, procedures, processes, etc.), tangible assets and relational capital are managed to create profitable new products and services. Converting IC into intellectual asset increases corporate value (Roos et al., 1997; Edvinsson & Malone, 1997; Edvinsson & Sullivan, 1996 and Webster et al., 2004).

Grojer and Johanson (1998) depicts some aspects of accounting for IC may have originated in human resource costing, which seems to have experienced reduced focus in recent decades. The dormant nature of this is also referred to by Roslender & Fincham (2001) in their critical thinking on IC, when they pose the question what form accounting for IC should take. Dealing with matters external to the firm Stolowy & Jeny-Cazavan (2001) address the setting of standards for financial reporting of intangibles, in relation to which Holland (2003) contrasts a more market-based approach, when data is used by institutional fund managers. Further, Amir et al. (2003) have undertaken a quantitative

analysis focusing particularly on R&D. Bukh (2003) comments on the need for firms' disclosure on IC to be part of the framework of value creation processes within the firm in order to be seen as relevant by the capital market, whilst a method to develop a latent index to proxy performance elements of human capital assets has been developed proposed by Abdel-Khalid (2003). Collier (2001) points out that the intellectual capital of an organisation may be different from its intellectual capacity, contrasting a flow rather than stock approach. Mouritsen et al. (2001b) develop some of this in their report of numbering, visualization and narratives in the accounting for IC at Skandia. Van der Meer-Kooistra and Zijlstra (2001) in reviewing IC reporting models convey their experiences of IC accounting in some Danish companies also drawing attention to the audit complexity that may apply in some aspects of reporting. Petty and Guthrie (2000) suggest it is desirable that researchers keep their work focussed on business practice. Guthrie et al. (2001) point to two IC "missions" on which their paper throws some light, being systems for creating, capturing and disseminating IC and measures and ways of reporting value attributable to IC within organisations. Tayles et al. (2002) have some suggestions on this latter point on which his paper offers an empirical contribution. Many other writers in the Knowledge Management and Intellectual Capital field have also placed focus, for example, Mouritsen (1998), Tayles et al. (2002) and Mouritsen and Larsen (2005), Tomkins & Carr (1996) and Guilding et al. (2000).

Elements of intellectual capital

Many practitioners suggest that Intellectual capital consists of three elements Bontis (1998).

- Human capital, which includes experience, the know-how, capabilities, skills, and expertise of the human members of the organisation.
- Structural capital (or organisational capital), which includes the systems, networks, policies, culture, distribution channels, and other "organisational capabilities" developed to meet market requirements as well as intellectual property.

- Relational (customer) capital, which includes the connections that people outside the organisation have with it, their loyalty, the market share, the level of back orders, and similar issues.

CLASSIFICATION OF INTELLECTUAL CAPITAL MEASUREMENT

MODELS

According to Sveiby (2004) and Malhotra (2003), there are four basic methods to classify measurement models for intellectual capital:

- Market capitalisation method – The difference between market capitalisation and stockholders' equity is calculated.
- Return on assets method – Tangible assets and the annual financial figures are compared to the industry average. Above-average earnings are then used to estimate the value of intangible assets.
- Direct intellectual capital method – Components are identified and valued.
- Scorecard method – Various components of intellectual capital are identified and reflected in terms of scorecards and graphs.

MODELS FOR MANAGING INTELLECTUAL CAPITAL

Various models exist for managing intellectual capital. Some of the most well-known models are Sullivan's Model (Van den Berg, 2002); the Skandia Intellectual Capital Value Scheme (Roos, Roos, Dragonetti and Edvinsson 1997); the Brooking's Model (Brooking, 1996); Roos and Roos's Categorisation (Roos & Roos, 1997); St Onge's Model (Westberg & Sullivan 1998); Sveiby's Model (Sveiby, 1997); and Wiig's Model (Wiig, 1997). For the purpose of this study, only the Skandia Intellectual Capital Value Scheme will be discussed.

Skandia intellectual capital value scheme

Leif Edvinsson is widely acknowledged as one of the world's leading experts on intellectual capital. He was appointed as the first Director of Intellectual capital at Skandia, an internationally operating Swedish insurance company. Skandia propagated

an alternative taxonomy. Thus, Edvinsson's approach seems to be motivated by a practical orientation, similar to that of Saint-Onge. Edvinsson considers intellectual capital primarily as the hidden values constituting the gap between market value and book value. Hence the equation $\text{Market value} = \text{Book value} + \text{Intellectual capital}$. In 1992, when Skandia started stock-taking of the hidden values of intellectual capital, a list consisting of more than 50 valuable items such as trade marks, concessions, customer databases, IT systems, or key persons was compiled. Since the list was perceived as too long and unmanageable, items had to be grouped into fewer but decisive categories, the human dimensions, and the structural dimension, which led to a simplified definition of intellectual capital: $\text{Intellectual capital} = \text{Human capital} + \text{Structural capital}$. The dimensions that are "left behind when the staff has gone home," according to Edvinsson (Roos et.al., 1997), are referred to as structural capital. He emphasised the fact that human capital cannot be owned, it can only be rented. Structural capital, on the other hand, may be owned or traded from a shareholder's point of view. Skandia then create an initial model for defining the different categories of intellectual capital. In this model, market value is divided into financial capital and intellectual capital. The latter is further subdivided into human capital and structural capital. Structural capital encompasses customer capital and organisational capital, and the latter encompasses process capital and innovation capital. However, at Skandia, Edvinsson provided a more detailed perspective and divided organisational capital further into two additional building blocks. Within organisational capital the value of process capital (intangible assets) could be deducted, resulting in innovation capital (intellectual property) as the balancing item. So, his model is the most acceptable model for acknowledging human capital.

CONCLUSION

Intellectual capital resources are often context specific, distinctive and interconnected. However, managers of high IC companies need to be able to develop knowledge-based strategies, communicate and demonstrate the "value relevance" through a combination of financial and non-financial methods. They should develop a performance measurement framework and control system in the context of contemporary interest in accounting for intellectual capital and greater academic emphasis on external reporting. Relatively few

surveys have been reported on management accounting for intellectual capital. In this paper, we have examined the question of whether the level and shape of intellectual capital within firms influences overall performance of the firms. Our analysis suggests that the level of investment in IC is associated with management accounting practices, business performance, and the ability to respond to future events.

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