Public Sector Performance Reporting: The Intellectual Capital Question

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Abstract

Over the past two decades, the reporting frameworks used within the public sectors of a wide variety of jurisdictions have undergone significant change. Much of this change has arguably been relatively incremental, resulting in reporting frameworks still cast in a highly traditional form. At the same time, events in global capital markets have resulted in many elements of traditional reporting frameworks being discredited. In this paper, we examine the possibility that alternative reporting frameworks, and specifically those related to intellectual capital (IC) might, be beneficially adopted in public sector settings. We examine reasons why such an outcome might be beneficial, and examine a range of established alternative reporting frameworks dealing with IC, together with some of their strengths and weaknesses. We argue that there is room for the adoption of elements of these systems in public sector settings, and that it is plausible to anticipate material accountability and transparency benefits as a result.

Keywords

Intellectual Capital; Accrual budgets and reports, Reporting Frameworks; Public Sector
Public Sector Performance Reporting: The Intellectual Capital Question

1. Introduction

Over the past three decades the governments of numerous nations around the world have been implementing reforms in the name of NPM and NPFM. These initiatives have been launched from all points of the political spectrum. Reform has been promoted on the grounds that the public sector was too large and cumbersome, organized on the wrong principles and in need of reinvention and institutional renewal.

At least five different categories of change are apparent in this type of reform, referred to as ‘new public financial management’ (NPFM) (Olson et al., 1998). These include: the development of commercially based, market oriented management systems and structures to deal with the pricing and provision of public services; the development of a performance measurement approach; the devolution of or delegation of budgets; changes to internal and external public sector audits, notably in terms of monitoring service delivery functions; providing reviews of the efficiency and effectiveness; and changes to performance reporting systems (Guthrie, Parker and Shand, 1990; Olson et al., 1998; Jones, Guthrie and Steane, 2001a; b; Guthrie et al. forthcoming, 2004).

It is the last set of reforms that is the focus of the current paper. As we demonstrate below, significant reforms to reporting frameworks have taken place within the public sectors of a wide range of jurisdictions throughout the world. However, these reformed reporting frameworks, while potentially representing incremental improvements on previously existing systems in relation to the quantity and depth of information consequently available, are nevertheless arguably deficient in a range of respects. Analysis of the desirability of reformed performance reporting systems and frameworks within the public sector intensified during the 1990s (Guthrie, 1993; Micallef et al., 1994; Lee and Bellamy, 1997), and while much emphasis has been placed on the provision of enhanced financial information, strong concerns have been raised about the adequacy of
financial information sets, particularly given identified growth in concern relating to the quality of services provided by public sector organisations, as well as the economic, social and environmental impact of service provision and operation (Guthrie, 1993; Walker and Walker, 2000; Guthrie et al., 2004).

Therefore we argue that it is desirable that, within the context of public sector reporting frameworks, information on both economic and non-economic performance should be reported. This would enable public sector entities to provide a more complete account of their value creation and sustainability performance. Though a literature on non-financial performance reporting within the public sector has developed recently (see for example; Carlin and Guthrie, 2001; Walker, 2002), insufficient attention has been paid to the possibilities associated with the adaptation of intellectual capital (IC) reporting frameworks for public sector application. We suggest in this paper that performance can be better illustrated via reporting of IC information, and that IC information is as important in public sector applications as in other sectors of the economy.

This paper is organised as follows. Section 2 contains a review of global changes to public sector reporting and financial management frameworks. Section 3 contains a discussion of alternative reporting frameworks and their potential contribution, whilst sections 4 and 5 concentrate on IC reporting frameworks in particular. Section 6 of the paper offers some concluding remarks.

2. Global Changes to Public Sector Reporting and Financial Management Frameworks

As discussed above, a significant proportion of the effort expended in reconstituting public sector reporting frameworks over the past decade has revolved around a shift towards the application of accrual accounting and reporting techniques. Traditionally, cash rather than accrual-based frameworks have been the mainstay of accounting and financial reporting in the public sector throughout the world. This was the case through till the late 1990s (OECD, 2002, p.17). The same can be said of public budgeting systems
which have, until recently, in a small number of jurisdictions, been almost exclusively cash based.

The adoption of accrual accounting has represented a necessary precursor step to the adoption of a range of other NPM style financial management reforms, including accrual output based budgeting (Carlin, 2003). As demonstrated below, a wide range of jurisdictions have now adopted accrual accounting as the key methodology used within their public sectors. However, the review below also demonstrates the long lead times that have been associated with the implementation of this reform, even in relatively sophisticated public management environments. While jurisdictions contemplating such a path now have the benefit of the considerable experience derived in a wide range of settings, nonetheless, the overview of international experience set out below suggests that even the implementation of accrual accounting and reporting can be a lengthy, resource hungry exercise. Furthermore, we submit in this paper that the resulting framework may not be markedly better adapted towards the goal of providing enhanced insights into sustainability and locus of value generation than the parsimonious legacy systems now being rooted out and replaced in a variety of global jurisdictions.

Taking a historical perspective, the shift towards a comprehensive accrual oriented public sector accounting and financial reporting structure began in the late 1980s, most notably in Australia and New Zealand. The latter jurisdiction became the first sovereign nation to fully implement accrual accounting at both a national and agency level. By the early 1980s, many New Zealand Government Trading Enterprises (GTEs) had adopted accrual accounting and financial reporting (IFAC, 1996). However, the most significant impetus for wholesale adoption of accrual accounting in the New Zealand public sector can be attributed to two pieces of legislation, the State Sector Act 1988 (NZ) and the Public Finance Act 1989 (NZ).

\footnote{There had of course been a more wide ranging contemplation of the issue than is necessary to catalogue here. For example, in 1978, the New Zealand Comptroller and Auditor General had advocated accrual accounting as a means of improving cost and asset management (NZ Audit Office, 1978).}
The first of these milestone pieces of legislation created a new legal framework for the relationship between departmental heads and their Ministers. The fundamental goal of redesigning these relationships was to increase the accountability to Ministers of departmental heads for their performance and that of their departments.

Reconstituting the accountability framework in this manner entailed modifications to the broader accountability infrastructure. These were embodied in the *Public Finance Act 1989* (New Zealand), which included requirements that audited accrual financial reports be produced at both a whole of government and an agency level. The act came into effect on 1 July 1989. By December 1990, all 49 New Zealand government departments in existence at the time had moved to an accrual accounting system, leading to the production of the first accrual based whole of government reports a year later (Ball *et al.*, 1999).

In Australia, accrual techniques had also been used selectively from the early 1980s onwards. Statutory authorities² of both the Commonwealth of Australia and the state of New South Wales³ adopted accrual based financial reporting from 1983 onwards (Funnel and Cooper, 1998, p. 130), an outcome informed significantly by the findings of a lengthy though influential report⁴ issued by the Commonwealth Joint Committee of Public Accounts⁵ (JCPA, 1982).

In New South Wales, The 1990/91 NSW Budget Papers announced the government’s intention to adopt accrual accounting and reporting throughout the state public sector

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² These later became so called “Government Trading Enterprises” (GTEs) or “Government Business Enterprises” (GBEs).
³ Australia is a federal state. The Commonwealth Government is the national tier of government. A second tier of government exists in relation to the states and self-governing territories. A third tier of government comprises local government. Only the first two layers of government are constitutionally recognised. The state of New South Wales is the oldest and most populous of the Australian states.
⁴ Report 199?.
⁵ It should also be noted that, between 1978 and 1982, the Commonwealth Senate Standing Committee on Finance and Government Operations (SSCFO) published a series of reports
over a three-year roll out period (Nicholls, 1991, p.34). This was achieved within the proposed timeframe, and in advance of the implementation of accrual systems in any other Australian state or territory (Walker, 1995, p.10). The Commonwealth government announced its commitment to the cause in November 1992 (Christensen, 2002, p.29). Victoria implemented accrual reporting from June 1996 onwards and, by the conclusion of the decade, all Australian jurisdictions had adopted accrual based accounting and financial reporting systems.

Canada, another constitutional monarchy that inherited its traditional governance and public sector financial management arrangements from the basic Westminster model, has also adopted accrual accounting. Early indications of interest in accrual accounting in the Canadian public sector can be traced back at least as far as 1962, when the Royal Commission on Government Organisation (the Glassco Commission) observed that it was desirable that public sector organisations adopt accounting systems which tracked the complete cost of producing goods or services, in order to facilitate better decision making (Glassco, 1962). A later enquiry directed specifically at the issue of financial accountability and management, the Lambert Commission (Lambert, 1979) reached similar conclusions in relation to the desirability of implementing accounting systems (such as accrual or modified accrual systems) capable of more fully capturing the cost of government operations.

However, whereas in Australia and New Zealand the eighties represented a time of gathering momentum for the introduction of accrual accounting and reporting, in Canada, there is little evidence of substantial progress during that period. In 1987, the Office of the Auditor General of Canada issued a document entitled the “Financial Management and Control Study” (CanAG, 1987). This document echoed the sentiments of the Lambert report and suggested that the state of Canada’s accounting and reporting systems was, at the time of publication, still incapable of providing information adequate for the needs of improved sector wide financial management.

which indicated a clear preference for the adoption of accrual accounting techniques by statutory authorities. See for example, SSCFGO (1980).
In 1989, the Treasury Board of Canada announced its approval of a proposal to develop and implement a government wide Financial Information Strategy (FIS), centred on the adoption of full accrual accounting. Strength of intention did not translate into swift action and, despite numerous reiterations on the part of senior Ministers to adopt accrual accounting and reporting, the timetable was pushed back to a goal of phase-in by 2001, a delay of more than a decade from the original point of adoption of the FIS (CGAAC, 1999).

The move towards accrual accounting and financial reporting in the United States followed a similarly tortured path to that trod in Canada. An important milestone in the journey towards this outcome was the formation, in 1984, of the Government Accounting Standards Board (GASB) in the United States. By 1987, this body had issued Concepts Statement No. 1, which established several key foundations for future public sector financial reporting, including explicit consideration of matters pertaining to intergenerational equity, efficiency and compliance. Though Concepts Statement No. 1 was not focused on the question of accrual accounting, nor did it explicitly prescribe or mandate the technique, reconciliation with the stated foundation principles of intergenerational equity, at the very least, seems to strongly suggest an ultimate preference for accrual accounting and reporting.

The remainder of the 1980s through to the late 1990s were characterised by much the same stop-start process that had defined the Canadian experience through the same period. However, by 1997, GASB had mapped out a comprehensive framework for government wide accrual accounting and financial reporting, an initiative brought to fruition for all financial years ending after June 2001 (Ball et al., 1999).

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6 As distinct from budgeting systems.
7 At the time of writing, the OECD still records Canada as having a partial rather than full accrual system by reason of its policy of expensing rather than capitalising long lived assets at date of acquisition (OECD, 2002).
Across the Atlantic, in the United Kingdom matters moved somewhat more quickly. In 1992, the first widespread application of accrual accounting methodologies in the UK public sector came with the creation of NHS Trusts (Broadbent, 1992). However, the application of accrual practices within the UK national health system may be viewed as a pilot application, the model adopted within one sector providing the basis for a later public sector wide roll out.

Thus, in 1993 the Chancellor of the Exchequer announced, as part of that year’s budget proposals, that “resource accounting”\(^8\) would be implemented throughout the UK public sector over the successive 3 – 5 years (H. M. Treasury, 1993). Further details were released and a public consultation period (of eighteen months) was announced in 1994 (H. M. Government, 1994), at the conclusion of which a timetable requiring the adoption of accrual accounting by 1998 was set in place (H. M. Government, 1995). The actual implementation of public sector wide accrual accounting and reporting took longer than envisaged, the original timetable being amended to require dry run accounts for the 1998/99 year, and full audited and published accrual accounts for the financial year ending March 31 2000 (IFAC, 2002).

In addition to the jurisdictions discussed above, full accrual reporting for budget-funded agencies has been adopted in the Netherlands (OECD, 1997), Finland, Japan, Portugal, Sweden and Switzerland (OECD, 2002). Iceland uses a modified accruals system, differing from the “full” accrual model only in that, as a matter of policy, all long-lived assets are expensed at the point of acquisition. In other jurisdictions, a primarily cash based reporting framework is maintained, supplemented by additional accrual disclosures.

Table 1 below provides an overview of the international adoption of accrual-based accounting and financial reporting for budget funded agencies. A three way classification

\(^8\) A term of the art used in the United Kingdom which encompasses, amongst other things, the adoption of an accruals framework for financial reporting and budgeting purposes.
system is adopted, jurisdictions being categorised as using “full accrual” (largely indistinguishable from typical commercial practice), “modified accrual” (essentially reflecting commercial practice but with less emphasis on comprehensive statements of financial position) or “cash with accrual disclosure” models of reporting.

Table 1. Accrual Financial Reporting By Budget Funded Agencies

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<th>Full Accrual Basis</th>
<th>Modified Accrual Basis</th>
<th>Cash Basis With Supplementary Accrual Data</th>
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<tr>
<td>United States</td>
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(Modified from OECD (2002), Tables 3 and 4, pp. 14 – 15)

The necessarily brief review of the international adoption of accrual accounting and reporting by budget funded agencies set out above suggests that, although the
implementation experience has differed significantly between jurisdictions, particularly on dimensions such as degree of public consultation and gestation period, the trend towards the adoption of accrual accounting is a global, rather than an English speaking “club” phenomenon.

Indeed, the repetitious reference in technical and academic literature to the experience of Australia and New Zealand in particular, as early adopters of comprehensive accrual frameworks, may have resulted in insufficient recognition of the breadth and depth of the impetus towards the adoption of accrual accounting and financial reporting techniques within the public sectors of a growing number of jurisdictions throughout the world. Even in those jurisdictions where the least reforming fervour has been demonstrated, for example parts of continental Europe and South America, it is difficult to find remaining examples of pure cash based accounting and reporting frameworks (Morphett, 1998).

It is not our purpose to criticise these changes or to suggest that they do not represent a degree of progress towards the goal of providing greater transparency and accountability. However, the emphasis on improving financial reporting frameworks demonstrated in the review of international action above has, in our view, come at a significant cost – that is, with inadequate attention to other elements which could add substantial value if fused into the reporting framework. In making this point, it is instructive to refer to recent empirical literature on non financial reporting frameworks adopted in jurisdictions generally agreed to be within the reforming vanguard, which suggests that though greater volumes of non financial information are indeed being reported at present compared with historical baseline positions, the quality and consistency of that information has been poor (Carlin and Guthrie, 2001; Walker, 2002).

3. Alternative to traditional financial reporting, new reporting models

A string of recent accounting scandals (i.e., Ansett, Enron, HIH, One.Tel, Worldcom) has drawn greater attention worldwide to the limitations of the traditional financial reporting
framework in providing information even for financial information users (See, Barsky et al., 2003; Boyle, 2003, p. 8; Buffini, 2003, pp. 1, 3; Byrnes and Der Hovanesian, 2002, p. 34; Byrnes and Henry, 2001, p. 51; Byrnes et al., 2002; Collins, 2003, p. 28; Fairlamb, Matlack and Ihlwan, 2001; McNamee, 2001, p. 34; Reed et al., 2002; Sykes, 2003a, p. 14; 2003b, p. 18; Weber, 2003, pp. 68-69). It has been widely observed that many new strategic intangible resources that are increasingly important in the rise of knowledge-based economy are not accounted for in traditional financial statements (see, Cordon, 1998; Edvinsson and Malone, 1997, p.1; Guthrie, 2001, pp. 29-30; DISR, 2001, p. 11; Leadbeater, 1999, p. 17; Norreklit, 2000; Brennan and Connell, 2000). Furthermore, the movement towards sustainable development has underlined and given rise to the re-emergence of the criticism that has long been put forward: - that the traditional financial reporting framework only gives an incomplete account of organisational activities (see eg., Estes 1976; Gray et al., 1993; Gray et al., 1996; Mathews, 1997).

Gray et al. (1996, p. 2) indicate that economic activity is producing an increasing number of environmental and social problems; and that these consequences are not reported under the traditional financial reporting framework. Given the material role played by the public sector in most modern economies, a failure of reporting frameworks to adequately capture these effects could have serious consequences both for the quality of accountability and policy making outcomes. Bearing these identified limitations in mind, it is worth noting that alternative reporting frameworks have been increasingly recognized as having the potential to complement more traditional frameworks, thus achieving greater accountability and transparency. Even institutions more readily associated with traditional rather than alternative frameworks have recognized the importance of such frameworks. One example is the Institute of Chartered Accountants in England and Wales (ICAEW) that recently released a discussion paper on New Reporting Models for Business (ICAEW, 2004). This report identified the following key themes and tools for future implementation:

- Balanced scorecard – 4 perspectives;
• Jenkins report – forward looking information including non-financial measures, eg. patents, trademarks, concessions, major contractual relationships plus opportunity and risks;
• Tomorrow’s company – financial report, value chain report (information on customer satisfaction etc), a people document (information on skill level and knowledge bank), sustainability document (community and environmental impacts);
• 21st century annual report – more framework based; forward-looking financial information and better information on risks;
• Inside out – company ambitions, strategic direction, description of strategic decision-making process, preferred measures, key drivers of value, measures of performance appropriate to the business;
• Value Dynamics – better disclosure of intangible assets – 54 boxes showing different kind of assets-related info;
• GRI – should include vision and strategy, profile, governance structure and performance indicators;
• Brookings Institute – value of intangibles eg Lev’s value chain scoreboard – quantitative standardised and relevant measures;
• Value reporting – moving beyond the earnings game; and
• Hermes principles – general requirement about disclosure of WACC and ability to deliver returns ahead of WACC and cash-based reporting.

Self evidently, some of the thematic elements set out in the ICAEW’s report (as abstracted above) are valuable tools only in a profit centric, private sector context. Archetypes of such techniques include WACC based frameworks that tend to be associated with frameworks focused on market and economic value added. However, many elements of alternative reporting frameworks first envisaged for private sector application may also find useful outlets in public sector settings.

In contrast to the focal point of traditional reporting frameworks, knowledge (or IC) has been increasingly identified as the basis or reason for a significant shift in the forces underpinning economic systems in many jurisdictions (Grant, 1996). Again, much of the
literature that has examined this phenomenon has paid heed to the impact of this major systemic shift on profit driven private sector organizations. However, the material role played by the public sector in modern economic systems means that public sector institutions and actors are also being profoundly affected by these changes.

In knowledge economies, the three factors of production at the heart of classical economic models, namely capital, labour and land, are complemented by a fourth factor, knowledge (Drucker, 1993; Zingales, 2000). Indeed, some authors have suggested that it is increasingly the case that knowledge (or IC) dominates these other factors, an argument exemplified by Quinn’s statement (1992, p.241) that, in most cases, the economic and productive capacity of an organization “lies more in its intellectual and service capabilities than its hard assets.” An increasing band of authors are persuasively arguing that in private sector settings, competitiveness is increasingly being driven by the capacity of an organization to generate new knowledge and apply existing knowledge to defend and increase its market space and its capacity to utilize other non knowledge resources efficiently and effectively (Kim and Mauborgne, 1999; Rajan and Zingales, 1998). The corollary of this for public sector organizations is the capacity to generate new knowledge and better apply and manage existing knowledge to facilitate the creation of improved capacity to deliver quality services within constrained resource bases.

While the development of more knowledge centric organizations and processes may not appear to have a sinister element, some theorists have hypothesized that as an organisation’s reliance on knowledge and knowledge based processes increases, so too must its reliance on the keepers of that knowledge, its employees and managers, increase (Zingales, 2000). This raises questions about the vulnerability of the organization to undesirable wealth and resource appropriation by these actors, and suggests a need for reporting systems to far more comprehensively take account of this vitally important resource and its applications. This risk is as pressing for public sector organizations as for private sector organizations. It therefore follows that a reassessment of reporting framework needs is also vital for public sector organizations.
However, as section 2 (above) of this paper demonstrates, much of the change in the reporting framework in public sector settings over the past two decades has simply represented the adoption of refinements to otherwise traditional reporting structures, suggesting a lack of capacity or preparedness to cope with the types of challenges outlined and discussed above. In light of this, it is appropriate to briefly review the nature and characteristics of a range of IC reporting frameworks, as set out in section 4 below.

4. Review of various IC frameworks
Various IC frameworks have been developed. This section selects and reviews four of these: those of Brooking (1996), Edvinsson and Malone (1997), Roos et al. (1997), Stewart (1997), and Sveiby (1997b).

**Brooking’s (1996) IC classification**

Brooking (1996) considers an enterprise to comprise of tangible assets and IC. IC is defined as the combined intangible assets that enable the company to function. The IC is made of market assets, intellectual property assets, human-centred assets and infrastructure assets.

**Figure 1. The components of intellectual capital**

![Diagram of the components of intellectual capital]

Source: Brooking (1996, p. 13)
Market assets are those derived from a company’s beneficial relationship with its market and customers (Brooking, 1996, p. 19). They include various brands, customers and their loyalty which lead to repeat business and sometimes to the existence of backlog, good distribution channels, favourable contracts, and various agreements such as licensing, franchises and so on (Brooking, 1996). Human-centred assets comprise the collective expertise, creative and problem solving capability, leadership, and entrepreneurial and managerial skills embodied by the employees of the organisation. Various aspects of human-centred assets include education, vocational qualification, work related knowledge, occupational assessments, psychometrics, work-related competencies (Brooking, 1996).

Intellectual property assets include patent, copyright, design rights, trade secrets, know-how, trade marks, service marks (Brooking, 1996). Infrastructure assets are technologies, methodologies and processes which enable the organisation to function, which include management philosophy, corporate culture, information technology systems, databases of information on the market or customers, methodologies for assessing risks, methods of managing a sales forces, financial structure, networking systems, communication systems such as email, teleconferencing, and the ability to use the internet to sell goods, and financial relations (Brooking, 1996).
Edvinsson and Malone’s (1997) the Skandia Value Scheme

As shown in Figure 2 below, in the Skandia Value Scheme IC is the difference between market value and financial capital.

**Figure 2. Skandia Value Scheme**

Source: Edvinsson and Malone (1997, p. 52)

The Skandia Value Scheme (SVS) divides IC into human capital and structural capital. Human capital refers to the combined knowledge, skill, innovativeness, ability of employees, and a company’s value, culture and philosophy (Edvinsson and Malone, 1997, p. 11). Structural capital is defined as “everything left at the office when the employees go home” such as the hardware, software, databases, organisation structure, patents, trademarks, and everything else of organisational capability that supports those employees’ productivity (Edvinsson and Malone, 1997, p. 11).
Structural capital comprises customer capital and organisational capital. Customer capital includes customer satisfaction, longevity, price sensitivity and the financial well being of long-term customers (Edvinsson and Malone, 1997, p. 37). Organisational capital is the codified competence of the organisation and the systems for leveraging that capability (Edvinsson and Malone, 1997, p. 35), which is further divided into innovation capital and process capital. Innovation capital refers to the renewal capability and the results of innovation such as protected commercial rights, intellectual property, and other intangible assets and talents used to create and launch new products and services (Edvinsson and Malone, 1997, p. 36). Process capital is work processes, techniques (such as ISO 9000) and employee programs that enhance the efficiency of manufacturing or the delivery of services (Edvinsson and Malone, 1997, p. 36).

Roos et al.’s (1997) IC distinction tree

The IC categories of Roos et al. (1997) are built on the Skandia Value Scheme (Roos et al., 1997, p. 30). The total value of the company and its component are depicted in the IC distinction tree shown in Figure 3 below. They indicate that the total value of the company comprises financial capital and IC. They consider the value of financial capital to equal the replacement value of the company’s physical and monetary assets so that the assessment of financial capital becomes less dependent on accounting rules. IC includes all the invisible processes and assets of the company. They divide IC into human and structural capital to reflect the distinction between “thinking” and “non-thinking” IC. The components of human and structural capital are depicted in the IC distinction tree below.
Human capital is further divided into competence, attitude and intellectual agility. Competence can include things such as knowledge and practical skills. Attitude captures the willingness of employees to use their skills and abilities to benefit the company (Roos et al., 1997, p. 37) and can be influenced by motivation, behaviour, and conduct. Intellectual agility refers to the ability to use this knowledge and skills in different contexts and to increase it through learning (Roos et al., 1997, p. 39).

Structural capital comprises three main components: relationships, renewal and development, and organisation. Relationships include not only relationships with customers, but also with suppliers, alliance partners, shareholders and other stakeholders. Roos et al. (1997, p. 45) highlighted the importance of building relationships with various
stakeholders, which can be the most difficult form of relations to build up because their interests are often conflicting. They indicated that stakeholder actions can have great consequences on the company’s operations. Renewal and development includes the intangible aspect of anything that can improve financial capital and IC, or all the items that have been built or created and that will have an impact on future value, but have not yet manifested that impact (Roos et al., 1997, p. 51). These include new product development, re-engineering and restructuring efforts, development of new training programmes, and research and development that have not get to realisation of value. Organisation comprises three different aspects: infrastructure, processes, and culture. Infrastructure includes all the intellectual property assets of the company (patents, trademarks, brands, special designs and processes whose ownership is granted to the company by laws, mailing lists, customer databases, and process manuals) (Roos et al., 1997, p. 48). Processes refer to any activity inside the company that contributes to the creation of organisation capital (Roos et al., 1997, p. 49). Culture refers to a series of rites, symbols and norms that define the organisation as much as headquarters, logos, and products.

*Sveiby’s (1997) Intangible Asset Monitor*

Sveiby (1997b) illustrates that high proportions of intangible assets to market value can be observed in various industries and argues that there must be something among the company’s assets that will yield higher than bank interest in the future. These assets are intangible, and so are not accounted for (Sveiby, 1997b, p. 8). Hence, the market value of the company’s equity is considered to be composed of the book value of the equity and these intangible assets, as shown in the Intangible Asset Monitor in Figure 4 below. Sveiby (1997b) considers people as the only true agents of businesses, whose actions create all the assets and structures of the company - both tangible and intangible ones.

The invisible, intangible assets consist of internal structure, external structure and employee competence. Internal structure includes patents, concepts, models, computer and administrative systems, and corporate culture (Sveiby, 1997b). External structure
includes relationships with customers and suppliers and encompasses brand names, trademarks, and the company’s reputation and image (Sveiby, 1997b). Employee competence refers to the capacity to act in a wide variety of situations to create both tangible and intangible assets (Sveiby, 1997b).

**Figure 4. Intangible Asset Monitor**

![Intangible Asset Monitor Diagram]

*Source: Sveiby (1997a)*

As indicated above, there are various IC frameworks that have been developed and there is no generally accepted framework, the next section compares these various IC frameworks and draws out common features and components of them. This is to allow for a discussion of characteristics and limitations of IC frameworks in general.

**5. Comparisons of various IC frameworks**

The comparisons of various IC frameworks in this section highlight the limitations of various IC classifications. Table 1 (below) summarises and compares the four IC frameworks described above, and the commonalities among these frameworks are drawn out and presented in the last column.
Table 2. Comparisons of four IC frameworks - classifications and contents

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<tr>
<td><strong>Market assets</strong></td>
<td>Structural capital – Customer capital</td>
<td>Structural capital – Relationships</td>
<td>External structure</td>
<td>External/ customer capital</td>
</tr>
<tr>
<td>Brands, customers and their loyalty and good distribution channels, favourable contracts, and various agreements such as licensing and franchises agreements.</td>
<td>Customer satisfaction, longevity, price sensitivity, financial well-being of long-term customers</td>
<td>Relationships with customers, suppliers, alliance partners, shareholders, and other stakeholders</td>
<td>Relationships with customers and suppliers and encompasses brand names, trademarks and the company’s reputation and image</td>
<td>Various IC frameworks concentrate on relationships between the company and its customers. However, Roos et al. (1997) extend relationships to cover relationship with various stakeholders.</td>
</tr>
<tr>
<td><strong>Infrastructure assets</strong></td>
<td>Structural capital – organisational capital - Process capital</td>
<td>Structural capital – Organisation</td>
<td>Internal structure</td>
<td>Internal/ infrastructure capital</td>
</tr>
<tr>
<td>Technologies, methodologies and processes which enable the organisation to function, which include management philosophy, corporate culture, information technology systems,</td>
<td>Work processes, techniques (such as ISO 9000), and employee programs that augment and enhance the efficiency of manufacturing or the delivery of services</td>
<td>All intellectual property assets, any activity inside the company that contributes to the creation of organisation capital and organisational culture</td>
<td>Patents, concepts, models, computer and administrative systems, and corporate culture</td>
<td>Various IC frameworks similarly classify internal work processes as one source of company value. Mainly this category captures work processes, information technologies system,</td>
</tr>
</tbody>
</table>
databases of information on the market or customers, methodologies for assessing risk, methods of managing a sales forces, financial structure, networking systems, communication systems such as email, teleconferencing, and the ability to use the internet to sell goods, and financial relations

<table>
<thead>
<tr>
<th>Intellectual property</th>
<th>Structural capital - organisational capital - Innovation capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent, copyright, design rights, trade secrets, know-how, trade marks, service marks</td>
<td>The renewal capability and the results of innovation such as protected commercial rights, intellectual property, and other intangible assets and talents used to create and launch new products and services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Structural capital - Renewal and development</th>
</tr>
</thead>
<tbody>
<tr>
<td>All the items that have been built or created and that will have an impact on future value, but have not manifested that impact yet such as new patents filed.</td>
</tr>
</tbody>
</table>

| Most authors incorporate intellectual property assets into the internal/infrastructure capital. Roos et al. (1997) differentiate between those that are being developed and those that were developed. |

| corporate culture, management philosophy. |
Some observations should be made with respect to the common characteristics and limitations of the IC frameworks, which need to be addressed in the future development of IC frameworks.

First, from Table 2, it can be observed that most IC frameworks divide assets into three categories - external/customer capital, internal/infrastructure capital and human capital - although branches or sub-categories of the three common IC categories may be slightly different among different frameworks.

Second, the presentations of IC categories in each framework in the previous sections highlight an important assumption among the frameworks – namely, that IC is the difference between market value and the value of tangible assets, financial capital, or shareholder’s value. Defining IC as the difference between market value and book value has widely attracted criticisms in the IC literature. One criticism is that the value of IC can be impacted by the daily fluctuation of market value and choice of accounting policy (Bukh, Larsen and Mouritsen 2001, p. 90). In addition, market value may not be available if the company is not listed on the stock market (BCD, 2001). Prior research has criticised this definition of IC as rendering IC to be affected by the imperfection of capital market (Meer-Kooistra and Zijlstra 2001, p. 465) and accounting rules (Bukh, Larsen and Mouritsen 2001, p. 90). This criticism is particularly relevant when contemplating the possibility of the adoption of IC reporting frameworks for public sector
applications. Clearly, though IC does constitute a large portion of the assets of the public sector across many jurisdictions, attempts to measure this through purely market linked or based metrics will not be Sufficient.

Third, most IC frameworks attempt to identify sources of organisational economic value. They do so by placing particular focus on various aspects of IC management within the organisation (Meer-Kooistra and Zijlstra 2001, p. 460). However, this focus may result in a lack of capacity to attribute value changes to other (for example institutional and environmental) factors that also impact on an organisation’s efficiency and effectiveness. Notwithstanding this weakness, when seen as a complementary rather than an exclusive reporting framework, a significant proportion of this risk is mitigated (Bukh, Larsen and Mouritsen, 2001).

Lastly, IC frameworks have been criticised as being not fully exhaustive and exclusive and needing to be further developed (Grojer 2001, p. 708). Similarly, Roslender and Fincham (2001, p. 392) indicate that the different measures of IC identified in the literature appear rather unimaginative in their content. These authors encourage a different approach to developing IC frameworks further. One possible alternative they suggest is the ‘self-accounting’ approach by all organisational members, while noting that the content should be of interest to various stakeholders and communicate how the enterprise is performing from the perspective of those who contribute to that performance. These criticisms suggest that, in the same way as other reporting frameworks in existence, IC frameworks are also bound by limitations, despite their strength in providing additional information on strategic intangible resources (Caddy, Guthrie and Petty, 2001). This should come as no surprise, and ought to be treated as a peripheral rather than central conceptual problem. All reporting systems have flaws and effectiveness boundaries; however, there also appear to be significant synergies for organisations prepared to graft non-traditional reporting frameworks into their existing systems.
6. Conclusions

It has been widely observed that many new strategic intangible resources that are increasingly important in the rise of knowledge-based economy are not accounted for in traditional financial statements. Furthermore, the movement towards sustainable development has underlined and given rise to the re-emergence of the criticism that has long been put forward: that the traditional financial reporting framework only gives an incomplete account of an organisation’s activities indicate that economic activity is producing an increasing number of environmental and social problems; and these consequences are not reported under the traditional financial reporting framework.

IC reporting frameworks have been identified in this paper as a possible means of redressing certain of these weaknesses in public sector settings. However, in the IC literature, it is recognised that IC reporting frameworks cannot of themselves provide fully exhaustive solution sets (Edvinsson and Malone, 1997). Typically, the resort to IC reporting frameworks has been analysed through the lens of private sector organizations seeking to add additional economic or market value and further their competitive position in comparison to their peers. However, as we argue above, the fact that most of the literature on IC frameworks has been focused on private sector applications, and the conjoint fact that many of the measurement techniques recommended for use have a strong market oriented flavour not germane to public sector applications, does not render the concept of IC or the importance of IC reporting frameworks less valuable for public sector settings. On the contrary, because of the traditional lack of focus on this important area within public sector organizations and institutions, it is possible that the gains to be made as a result of a focus on IC and IC reporting frameworks in terms of organizational efficiency, effectiveness, transparency and accountability are even more significant in public sector settings.
References


