

Australian *Flexible Learning* Framework

Supporting Flexible Learning Opportunities

Flexible Learning Leaders 2003

The sustainable VET organisation

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23 February 2004

Flexible
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Leaders 

flexiblelearning.net.au



Text edited by [Darren Lewin-Hill](#)

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An initiative within the Australian Flexible Learning Framework for the National Vocational Education and Training System 2000–2004.



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Acknowledgments

Many people in Australia and overseas gave generously of their time and expertise to assist us with this project. The authors wish to take this opportunity to thank them all. We extend particular thanks to Kaye Schofield who kindly acted as our professional mentor throughout the life of this project. In the initial stages of our research, as we struggled to find a way into this vast topic, her paper, 'A new balance: Investing in public infrastructure to sustain Victoria's training and skills development' ([Schofield 2002](#)), gave us the direction we were looking for. Thanks Kaye.

While we were overseas a number of people helped to make our respective visits memorable.

Mark Landy would particularly like to thank Professor Henrick Helms who arranged interviews with key VET personnel in Copenhagen and other regions of Denmark. This pre-arranged two-day field-trip, including a stopover to be the guest of his family, and the meeting and delightful dinner with his colleague, Niels Jorgen Nordbog, were highlights of the tour. The hours spent with Professor Jan Mouritsen discussing Intellectual Capital Statements (ICSs) and how they might be applied to VET in Australia were also invaluable.

Sheila Fitzgerald would particularly like to thank Daniel Andriessen (Associate Professor Intellectual Capital at INHOLLAND University), Emma Hunt (Forum for the Future), Nigel Paine (Head of Training at the BBC) and Professor M. Paloma Sánchez (project coordinator of the MERITUM project, Professor in Applied Economics at the Autonomous University of Madrid), who all provided invaluable information on intangibles and their role in building organisational sustainability.

During the study tour it was also important to meet with groups like TAFE frontiers. Michael Kelleher (Learning Futures) and Jan Schuurman (CIBIT) represented a European Commission project called K² (Knowledge Square): to share is to multiply. The meetings, set up by Eelco Kruizinga, were invaluable and the group have continued to provide information and advice. Professor Andrew Dean (Exeter University, Marchmont Observatory) provided great insight on innovative ways of working and communicating.

Finally, we thank the Australian Flexible Learning Framework and its Flexible Learning Leaders Program for the funding and support that have made this project possible. We trust that our work, culminating in this report, will provide a useful impetus to further discussions and initiatives towards a more sustainable VET sector in Australia.

Abstract

If VET organisations are to thrive in the future they will need to develop a deeper understanding of the drivers of change across systems and the impact these have on organisational development and sustainability. We are currently witnessing a major change in the structure of the global economy – from a predominantly commodity-based, industrial economy, to one that is increasingly dependent on intangible assets as the primary source of ‘value’. Intrinsic to the development of this ‘intangible economy’ is the contribution of intellectual capital – a key intangible asset.

Furthermore, there is growing evidence that the degree to which a business is able to perform successfully in this new environment is now largely determined by its organisational flexibility, including the capacity to capture and leverage its intellectual capital. The effects of this transformative process, facilitated and nourished by the unprecedented power and universality of the information and communication technologies (ICTs), have far-reaching consequences for the way in which all businesses operate – including vocational educational and training (VET).

In broad terms, the aims of this report are twofold. First, to look more closely at the developments cited above and comment on their consequences for VET organisations. In so doing, we draw on the extensive literature relating to intangible assets and our research findings from the field. Second, if VET is to respond to these changes – whether that is in the local, national or international context – we propose a model of organisational sustainability that has three core characteristics: innovative, adaptive and networked. This is not to say that VET organisations do not exhibit these characteristics. Rather, our position is that, given the prevailing economic and social conditions, these three features need to be thought of and further developed as the defining organisational capabilities of VET. Undertaking such a task is not without its

challenges, and we also report on the efforts being made by a number of VET and non-VET organisations in response to these changed circumstances.

At this stage of the project, our model of sustainability should be regarded as a ‘work in progress’. Nonetheless, we believe that its essential features, supported by certain intellectual capital management tools and techniques outlined in this report, can assist VET organisations in the complex task of developing their own models of sustainability.

Introduction

The impact of global restructuring is reverberating through all levels of our economy and society. One key development in this process is the evident shift from a commodity-based economy, to an economy that is increasingly dependent upon intangible assets, specifically intellectual capital, as its primary source of growth and fundamental measure of value. This emerging economy is often referred to as the ‘knowledge-based economy’ (KBE), and the effects and implications of this economic transformation are now apparent. What is also becoming clear is the diminishing relevance of a number of the economic and business orthodoxies that reigned during the greater part of last century. As the inherent character and force of this ‘new’ economy becomes increasingly influential, traditional business principles and practices associated with the ‘old’ economy are being jettisoned and replaced by the search for more appropriate forms and processes. In short, we are witnessing a fundamental re-appraisal of what now defines *business or organisational sustainability* in this networked and turbo-charged global economy.

This Flexible Learning Leader study reports on our investigation into this field and the implications for the VET sector. From our study trip we discuss some of the key European Union (EU) projects and initiatives, and we make recommendations on how VET in Australia might learn and benefit from the EU experiences. We also report on our Australian research interviews where we investigated the relevance and applicability of our model of sustainability.

Report structure

This report is divided into five sections.

Section One explores the emergence of the knowledge-based economy (KBE) and identifies the characteristics that define it. In this context, we pay particular attention to the importance of ‘knowledge’ or intellectual capital in the KBE. We show how these ‘knowledge resources’ are impacting on existing notions of organisational value and traditional measures of economic performance in novel ways. We make reference to some of the international and Australian research that is currently tackling these

issues. To conclude this section, we discuss in broad terms the implications these developments have for VET and present our model of organisational sustainability.

Section Two is a brief literature survey on intangible assets.

- What are intangible assets?
- Why are they important?
- Why the current emphasis?
- What is the relationship of intangible assets to our model of sustainability and the VET sector in general?

In responding to these questions we also draw on our experiences from our European study trip.

Section Three focuses on emerging solutions. We explore two European initiatives: PRISM and MERITUM and show how their research into intangible assets, organisational change, and new and emerging business models offer important insights for our sector. As well, the Danish initiative for managing knowledge, the Intellectual Capital Statement (ICS) is analysed, and we evaluate its potential as a knowledge management tool for VET organisations.

Section Four presents the results of our interviews with VET CEOs and senior managers, in which we discussed our model of organisational sustainability and innovation in their organisations.

Section Five presents a summary of our findings.

Section One The knowledge-based economy and its impact

Definitions and impact

The impact of global economic restructuring and rationalisation is changing the way we think about and structure our workplaces. Taylorist production techniques associated with the industrial age of the early-to-mid-20th Century are now regarded as an increasingly rigid and outdated way of doing business. The logic of mass production for an undifferentiated mass market, single purpose mechanisation and vertical divisions of a predominantly, unqualified and/or untrained workforce are but some of the features of this mode of production that have been called into question. The term ‘industrial age’ has lost its relevance, and it is now common to hear commentators use terms such as the ‘information age’, the ‘post-industrial economy’, or the ‘knowledge-based economy’ as they try to capture the defining economic and social features that distinguish our age – for the purposes of this report we will use the term ‘knowledge-based economy’ or KBE.

It is beyond the scope of this report to look more closely at these various interpretations; however, we can make this comment. While there are some important differences in these various theoretical perspectives, the unifying thread linking them is their shared recognition of the unprecedented role knowledge plays in today’s economy. In particular, its unique capacity to add substantially to a firm’s economic value and competitive advantage. Processing information into knowledge within an organisation – and understanding how it is generated, managed and measured – is now at the forefront of business thinking.

So how are we to understand the KBE? There is a very useful discussion on this topic available on the Australian Bureau of Statistics website and it has this to say about the history of the term and the distinguishing features of a KBE:

The term ‘knowledge-based economy’ was coined by the OECD and defined as an economy that is ‘directly based on the production, distribution and use of knowledge and information’ (OECD 1996). The Asia-Pacific Economic Co-operation (APEC) Economic Committee extended this idea to state that in a KBE ‘the production, distribution and use of knowledge is the main driver of

growth, wealth creation and employment across all industries' (APEC 2000). According to this definition, a KBE does not rely solely on a few high technology industries for growth and wealth production. Rather, all industries in the economy can be knowledge intensive, even so called 'old economy' industries like mining and agriculture. Further, the APEC Economic Committee states that 'the knowledge required by a knowledge-based society is wider than purely technological knowledge; for example, it includes cultural, social and managerial knowledge' (APEC 2000) ([ABS 2003](#)).

Leadbeater highlights the fact that using knowledge to innovate is permeating all sectors of the economy – not just at the high-tech end.

The knowledge-driven economy is about a set of new sources of competitive advantage, particularly the ability to innovate, create new products and exploit new markets, which apply to all industries, high-tech and low-tech, manufacturing and services, retailing and agriculture.

In all industries, the key to competitiveness increasingly turns on how people combine, marshal and commercialise their know-how (Leadbeater 1999).

Similarly, in a report for the Department of Industry, Science and Resources, McKeon and Weir ([2001](#)) note the significance of a KBE in these terms:

A knowledge-based economy (KBE) is an economy in which the production, distribution, and use of knowledge is the main driver of growth, wealth creation and employment across all industries. In this context, being a KBE means more than simply having a thriving 'new economy' or 'information economy' somehow separate from a stagnant 'old economy'. In a truly KBE, all sectors have become knowledge-intensive...

To what extent then can Australia be said to a knowledge-based economy and how do we compare to other OECD countries? The conventional way to measure the extent to which an economy is 'knowledge-intensive' is to look at the percentage of Gross Domestic Product (GDP) contributed by 'knowledge-based industries' and the percentage of the labour force defined as 'knowledge-workers'. The OECD groups high-technology and medium-high-technology manufacturers, together with health and education services, financial and business services, and communications services as knowledge-based industries (KBIs). By this definition, the contribution of

knowledge-based industries in Australia is a substantial 31 per cent – similar to other OECD countries, with the USA at 38 per cent. Similarly, ‘knowledge-workers,’ defined as skilled white-collar workers – that is, managers, professionals, and associate professionals – in Australia represented around 38 per cent of the labour force in 2001. This percentage is also similar to other advanced OECD countries – for example, 32 per cent in Ireland, 34 per cent in the USA, and 41 per cent in Sweden in 1999. By these criteria, according to the Department of Industry, Tourism and Resources (DITR 2002) Australia has ‘one of the most modern economies in the world’.

Measuring an economy according to these criteria is a relatively straightforward task and economies have been measured this way for some time. However, it is now accepted that indicators such as these, which focus mainly on tangible economic outcomes, are not sufficiently revealing or comprehensive enough for the task of measuring and reporting on the complex interactions, and emerging value-drivers, that define the less tangible characteristics of the KBE.

Two European projects, MERITUM and PRISM, have devoted considerable resources to tackling this issue and we look at each in detail later in this report. Importantly for Australia, research on this question is not confined to Europe, and the Australian Bureau of Statistics (ABS) is doing some groundbreaking work of its own in this field. The ABS project, ‘Measures of a knowledge-based economy and society’ ([ABS 2003](#); [ABS 2003a](#)) is an exciting initiative, one with the potential to provide significant guidance for our sector as we continue to grapple with the challenges of measuring and reporting our activities in the KBE. The release of this framework, with its supporting discussion paper, is intended by the ABS to ‘stimulate discussion and provoke feedback about the proposed KBE framework and statistical indicators’. We briefly discuss this project below.

The Australian Bureau of Statistics model

The framework developed by the ABS builds on work previously done by the Asia-Pacific Economic Co-operation (APEC) group and the OECD. These bodies took the view that, as all industries in the economy can be ‘knowledge-intensive’, ‘the knowledge required by a knowledge-based economy is wider than purely

technological knowledge – for example it includes cultural, social, and managerial knowledge’ ([ABS 2003](#)).

So to accurately measure the KBE, what is needed is a framework or model that takes these various factors into account. The ABS framework aims to do this by developing indicators that extend beyond those traditionally used, such as knowledge-based industries and knowledge-workers within an economy, levels of R&D and so on. To see the ABS framework and its supporting papers go to [Measuring a knowledge-based economy and society – An Australian framework](#) and [Measures of a knowledge-based economy and society](#) ([ABS 2003](#); [ABS 2003a](#)).

The proposed ABS framework model has five dimensions. (See Figure 1) There are three core dimensions: innovation and entrepreneurship, human capital and information and communications technology. In addition, there are two supporting dimensions: a context dimension and an economic and social impacts dimension. The paper also presents possible indicators for the model’s dimensions and characteristics.

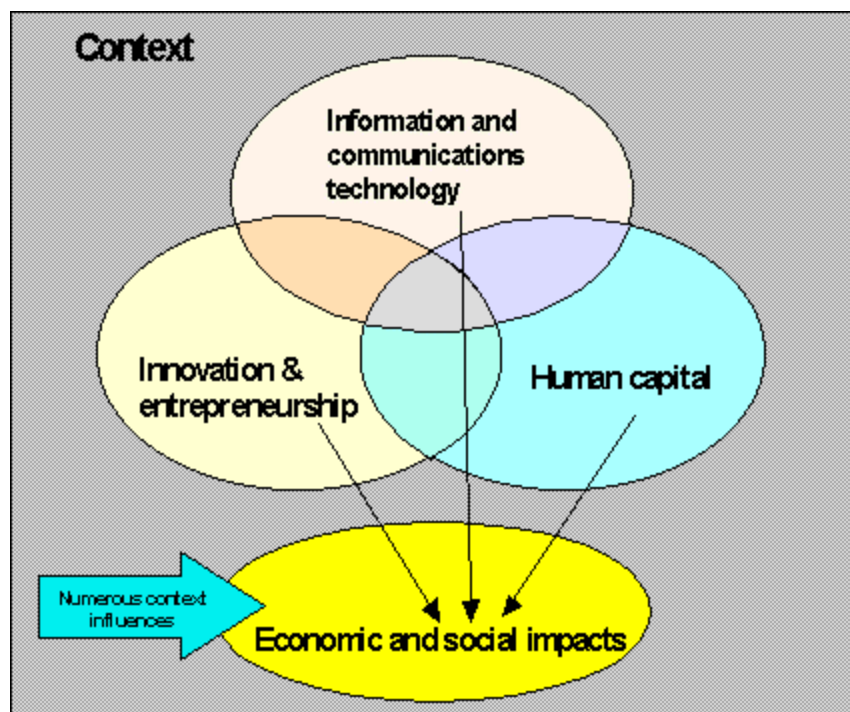


Figure 1. Simplified dimension structure of the proposed ABS knowledge-based economy/society framework ([ABS 2003](#)).

The dynamics of the KBE

While the definitions and indicators mentioned above illuminate certain aspects of the KBE, they are limited in their capacity to shed light on a defining characteristic of the KBE – namely its inherent dynamism. To better understand this feature, we need to turn to ‘new growth theories’, and their central belief that ‘innovation and the technological and organisational changes associated with it, are the key drivers of long-run economic growth ([ABS 2003](#)). In addition, these models hold the view that the ‘market is constantly changing and that businesses need to innovate in order to adapt to the changing environment’. Empirical studies concerned with trying to describe the behaviour of knowledge within this market have shown that:

- Knowledge flows around the whole innovation system – that is, within and between firms, within and between business and academia.
- These non-linear knowledge flows are a crucial condition for the generation of novel products, processes and technologies.
- For such knowledge flows to occur, firms need to be involved in networks or innovation systems ([ABS 2003](#)) – for further discussion of the ABS framework, see also Schofield ([2003](#)).

On the importance of ICTs in this process, Eustace (2000) observes that ‘ICTs continue to play an indispensable material role, both as an infrastructure and carrier that migrates concepts, processes and practices across all sectors’ (In fact, it is now difficult to imagine how the economy and society would function without the presence of ICTs). The sociologist [Manuel Castells](#) (1996) has also written extensively about what he calls the ‘network society’, and how this networked, global economy has the power, by virtue of ICTs, to act as a ‘unit in real time on a planetary scale’. The international money markets, where we see billions of dollars being moved around the world in the blinking of an eye, 24 hours a day, is probably the most visible expression of a market able to operate in real time on a global scale. These observations about the complex interrelationships and dynamic nature of the KBE, especially the findings about ‘knowledge flows’ and ‘networks’, add much to our understanding of the intricacies of this ‘new’ economy, but also show why measuring the outputs of this economy is proving to be such a challenging task.

So the emerging and more fully realised features of this the ‘new’ knowledge-based economy, can be summarised as follows:

- There is a noticeable shift in advanced economies from a reliance on manufacturing and commodity production to one where services, relationships, symbols and ideas are the ‘stuff’ of production – giving rise to the existence of the intangible economy.
- The need to draw on, manage, and capture knowledge, throughout the entire process of production and delivery of goods and services is intensifying and affecting all sectors of the economy.
- The processing and management of information and knowledge, made possible by the ever-increasing power and pervasiveness of ICTs, databases etc., help drive innovation and reconfigure economic value towards intangibles.
- The degree of organisational or business ‘connectedness’ via the existence of virtual networks is increasing throughout the global economy.
- The emergence of a new set of organising principles for production based on flexibility and innovation and the dynamic flow of knowledge.
- Increasing abstraction in the nature of our work and our relations, relationships, structures etc.
- Growth in demand for high-skill workers across most industries is increasing.
- Accounting systems and reporting models are not reflecting these changes in value.

The VET context

The Australian economy is not immune to these seismic shifts in the global economy. The aftershocks generated by these economic ruptures continue to reverberate through all sectors of the economy and society. Ferrier (1999) highlights the extent of this structural change with a comparison of the top 20 Australian companies in 1980 with the top 20 in 1998. In 1980, 13 of the top 20 were industries from the mining and resources sectors. In 1998, banking had the most, with five – and the previously dominant mining and resources companies numbered only four. Telecommunications, retail and financial services made up most of the remaining places in 1998. (One

would expect that this trend, has if anything, intensified since 1998). As Ferrier points out, this shift also demonstrates the move from investment in tangible goods, in this case tools and machinery, to a 'growth in industries which are more dependent on investment in intangible assets, such as knowledge and skills of people, for their financial success'.

How have these forces affected aspects of the VET sector and how do they relate to our investigations into the sustainable VET organisation?

Since the major reforms of the early 1990s, VET is seen to have a central role in the restructuring process of the Australian economy. The prevailing view, advocated by government, business and the labour movement, is that Australia's international competitiveness increasingly depends on the skills and quality of the nation's workforce. Significant efforts have been made in this time to improve the flexibility and skill-level of the nation's workforce. However, research is now beginning to show that while workforce skills remain vital, organisational flexibility – that is the ability of the organisation to adapt to new market settings, to draw on the knowledge and skills of its people in new or previously untapped ways – is rapidly becoming the key requirement for business sustainability. And how effectively an organisation develops and supports these characteristics are to a significant degree determined by the actions of the decision-makers and leaders within that organisation.

In relation to our project, this means that VET providers need to see themselves as *knowledge-generation businesses* that are able to leverage their organisational knowledge and capacity to generate improved outcomes for their own organisations and their learners. This presents a challenging shift in thinking for VET organisations as it impacts heavily on existing work roles, and demands from staff an acceptance of an increasingly abstracted notion of work as ICTs continue to mediate our work and relationships. Organisations need to prepare themselves for the future by having a much stronger understanding of their intangible assets and how they can build organisational value by utilising them more effectively. Furthermore, the continuing dispersal and uptake of flexible learning throughout the sector means that, in addition to the factors outlined above, VET organisations now have to operate in a more open, service-oriented manner, be responsive to individuals and their employers, and

prepare for the future skill needs of new and emerging industries as well as the changing requirements of the established industries.

Or to put it another way, how prepared are VET organisations to meet the objectives of the national strategy 2004–2010? We believe our model of sustainability is one approach for responding to these challenges, and we outline it below.

Our model of sustainability – IAN

During the early research phase of our project, as we scanned the literature on emerging business models, it became clear that in the KBE certain organisational features have become valued above others. Drawing on this research, we distilled these various features to three core characteristics, proposing that sustainable VET organisations must be *innovative, adaptive and networked* (IAN).

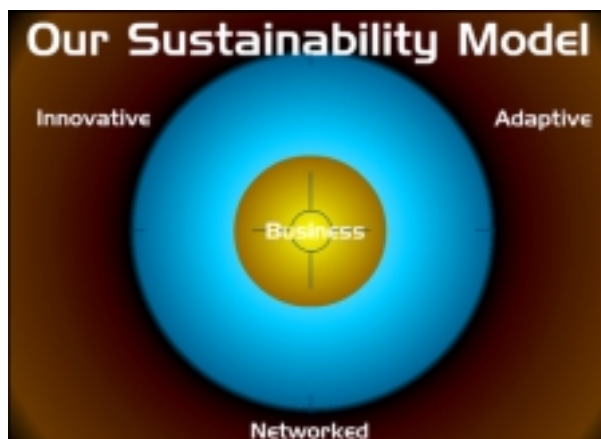


Figure 2. The model of sustainability.

We define a sustainable organisation as one that sets and achieves business goals and measures within the context of the operational environment and exhibits the core characteristics as follows:

Innovative: The ability to continuously probe its market environment and produce something like nothing done or experienced or created before to satisfy identified opportunities.

Adaptive: The ability to adapt or conform to new or different conditions.

Networked: The ability to identify and cultivate associations that can provide positive organisational benefits.

We have not been too fussed about how we define these terms. These definitions are taken straight from the dictionary. We think it more important to focus on what it is VET needs to be innovative about, rather than getting bogged down in definitional arguments. The characteristics of innovative, adaptive, and networked were chosen because of their relationship to intangible assets. They offer an alternative way of talking about sustainability (and intangible assets) to providers in terms they understand and are comfortable with.

In our field research we wanted to test the usefulness of this model by:

- Investigating the role and capabilities of leaders/innovators in VET and selected non-VET organisations and identifying how these individuals contribute to creating these sustainability characteristics in their organisations.
- Investigating and identifying how leaders/innovators create and enable these characteristics to flourish in their organisations.
- Explaining how these individual and organisational initiatives are developed into an organisational model of ‘sustainability’.

Our interview findings are discussed in Section Four.

Section Two Intangible assets

What are they?

It is now time to look more closely at what is meant by intangible assets and to briefly describe their significance and role in the KBE. As we have noted, coupled to the growing importance of knowledge as an economic asset is the shift in the economy from tangible to intangible factors of competitive performance. Evidence is also showing that the structure of a firm's asset base is changing, whereby an ever-increasing source of economic value is now derived from the intellectual capital of an organisation. However, it should be noted that, while there is broad agreement about the importance of knowledge in this equation, it is also conceded in the literature that our understanding of how knowledge works as an economic resource is still fairly limited.

Why the current preoccupation with intangible assets? As Lev (2001:9) points out, intangible assets 'have always been with us' and these assets have usually 'been expensed in financial reports'. However, he argues that the current emphasis on intangibles is due to the confluence of two factors. The first is 'intensified business competition', largely brought on by the deregulation of the telecommunications, electricity, transportation and financial sectors of the economy. The second factor is the 'advent of information technologies' and the Internet. These political and economic reforms, together with the technological advances, have 'changed the structure of corporations and catapulted intangibles into the role of the major value-driver of businesses in developed countries'.

The Mayo model

So how are we to understand intangible assets or intellectual capital, as often in the literature these terms are used interchangeably. To see the full extent of this field of inquiry, and to find useful links to information and knowledge about intangible assets and intellectual capital, the authors recommend the following website:

<http://www.intellectualcapital.nl/>.

With regard to definitions, we prefer to use the term ‘intangible assets’ and the model developed by Andrew Mayo, (See Figure 3). This model helps to show both the differences between tangible and intangible assets, and the relationship intellectual capital has to intangible assets. Figure 3 shows how Mayo groups and defines the various components.

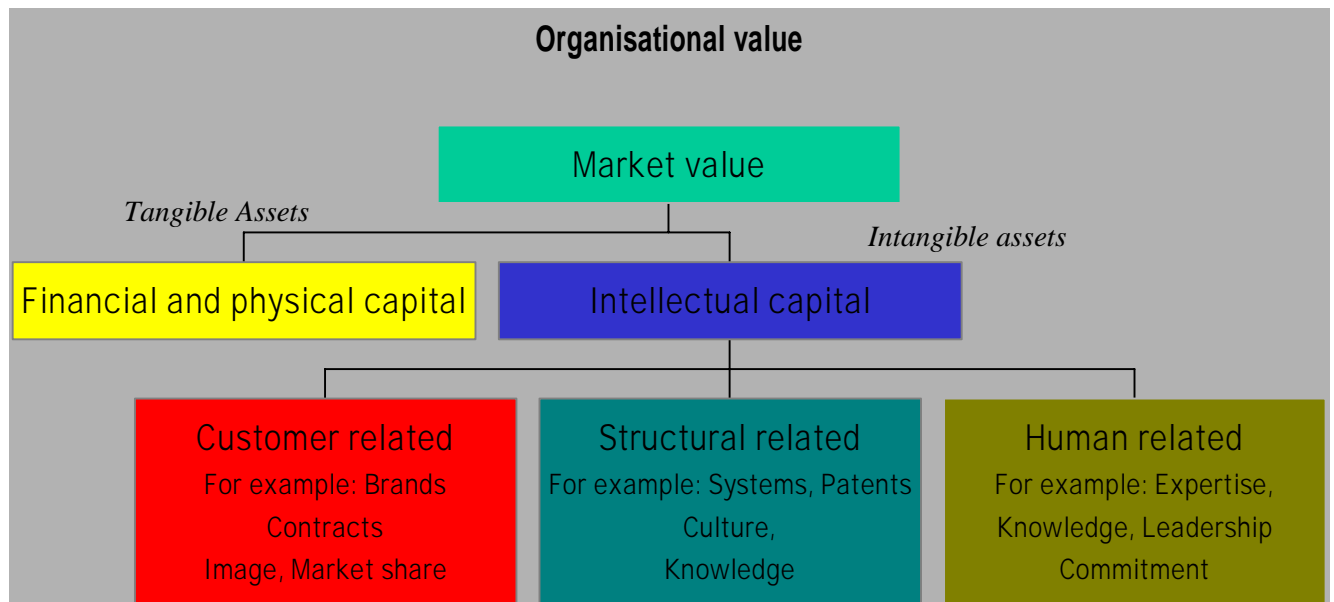


Figure 3. Organisational value (Mayo 2001:32).

Mayo defines each of these dimensions in the following terms:

Human capital is the knowledge that employees take with them as they leave an organisation. It includes knowledge, skills, experiences and abilities of people. Some of this knowledge is unique to the individual, some may be generic. Examples are innovation capacity, creativity, know-how and previous experience, teamwork capacity, employee flexibility, tolerance for ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training and education.

Structural capital is the knowledge that stays within the firm at the end of the working day. It comprises organisational routines, procedures, systems, cultures, databases, Examples are organisational flexibility, a documentation service, organisational learning capacity. Some may be legally protected by intellectual property rights or patents.

Customer or relational capital are all of the resources linked to external relationships of the organisation with customers, suppliers or partners. It comprises that part of human and structural capital involved with the company's relations with stakeholders. Plus the perceptions they hold about the company. Examples of this category are image, customer's loyalty, customer satisfaction, links with suppliers, commercial power, negotiating capacity (Mayo 2001:31–32).

European engagement

In Section Three we look in detail at two European initiatives that have focused on intangible assets. But first we would like to make these general comments about our overall impressions of the extent of European engagement with intangible assets. This perspective is then followed by some broad conclusions concerning intangible assets gleaned from the international literature.

The overseas study trip confirmed the impressions we gained from our initial research, that throughout Europe significant financial and intellectual resources involving academics, policy-makers, financial analysts, accountants, economists, and business managers are being brought to bear in this field. While Australia is rightly seen in Europe as a leader in many aspects of flexible learning, it seems fair to say that our engagement with intangible assets currently lags behind Europe and the United States. Significantly, it is not only that the level of activity is greater in Europe; it is that the substance of the activity in Europe is 'deepening'. For example, managers and organisations there recognise the importance of intangible assets; what they now want are the tools to help them manage and measure their intangible assets. What is also clear are the efforts being made to build 'transnational' communities and find models and solutions that reach beyond the national. Perhaps the status of intangible assets in Europe is in some way analogous to the current state of flexible learning in Australia: as we have moved through the preliminary challenges of the implementation of flexible learning, so too have the Europeans in relation to intangible assets.

Findings from the literature

There is a vast, and it would seem, ever-increasing body of work on intangible assets and its related themes. In our bibliography we suggest some useful websites and journals as a way into this topic. Below we have summarised some of our key observations and findings from the literature.

- The diversity of approach to intangible assets is worldwide – the language used has different meanings to each group. There is no common language or set of standards upon which to base discussions and there is a strong push to generate some standard requirements within the formal reporting of companies.
- While the emphasis for many groups is on the economic aspects of corporate reporting they still have a desire to produce a broader set of benchmarks upon which organisations can be compared. R&D seems to have the greatest traction but increasingly some descriptive material, which could be described as intangible assets, is included.
- There is an acceptance that too many mandatory measures would have the potential to stifle innovation.
- Further research evidence is needed to demonstrate the value of measuring and reporting on intangible assets. There is a belief that intangible assets are important but that there is not enough hard evidence.
- Public sector organisations worldwide are lagging in their consideration of intangible assets. Profit gives clarity to this discussion in ways that seem hard to replicate in public organisations.
- Governments at state and national levels are really lagging behind international thinking and policy in the realms of intangible assets, innovation and business transformation in response to the information/knowledge economy.
- There is a range of workable models for the analysis and reporting of intangible assets. The most promising include the MERITUM guidelines and the Danish approach to Intellectual Capital Statements.
- There appear to be many ways in which organisations get into the intangible asset discussion within the company. It can be through:

- Knowledge management.
 - Intellectual Capital Statements.
 - Intellectual property.
- In each case it appears that the solution is unique to that company – each approach offers slightly different benefits and in no way does one size fit all.
 - Models are of interest to organisational leaders but they want them to be practical.

A risky business?

To round off this introduction it is important that we briefly draw attention to the points made in the literature about the relative ‘riskiness’ of certain intangible assets as they relate to the process of innovation. In other words, what of the risk factors associated with intangible assets and innovation? The spectacular rise and equally dramatic bursting of the IT bubble, a sector built upon intangible assets, is perhaps the most notable demonstration not only of the volatility of intangible assets, but also of the wide divergence between the market and book values of companies as value spirals towards the intangible. Lev (2001:39) writes that, while all investments and assets have some element of risk, ‘the riskiness of intangibles is, in general, substantially higher than that of physical and even financial assets’.

This is also the case with innovation. Why? Because, as Lev points out, R&D, human capital and the assets of an organisation are the key ingredients for innovation, and investment in these components is most needed in the early stages of the innovation process. Unfortunately, the start-up stages of the ‘innovation chain or span’, as he refers to it, also happen to be the time when the technological and commercial risk of failure is at its greatest. Reassuringly, as one proceeds further along the ‘innovation span’, the level of risk ‘descends’. Significantly, a number of the CEOs we interviewed, (see Section Three) comment on managing the inherent risks involved in being an innovative organisation and the challenges they face in assessing the merits of various innovative ventures and projects.

Lev’s comments on the relative ‘volatility’ of intangible assets, his identification of the nexus between project start-up and the increased risk of project failure, help us to appreciate how assets of this kind can also impact upon organisational sustainability

in potentially contradictory ways. Given the ever-increasing entrepreneurial nature of VET activity, along with the continuing push for innovation, his observations, while primarily focused on the corporate world, are also critical ones for our sector.

Lev's insights bring another dimension to our understanding of intangible assets and innovation, and in line with general thrust of this paper, we believe his work also warrants closer examination.

Section Three Emerging solutions

The PRISM project

One significant and high-level European initiative has been the PRISM project. Begun in January 2000, its mission has aimed at gaining a deeper understanding of the issues surrounding the management and measurement of intangibles in the modern economy.

The project's first stage provided more than 60 research papers and 15 case studies produced by the PRISM researchers over the last 18 months. These have now been made available online at http://www.euintangibles.net/research_results.

The papers and presentations delivered at the PRISM Conference attended by the authors of this report in July 2003 can be accessed from this site or by visiting the [PRISM conference](#) site.

The final stage report, [The PRISM report 2003 – Research findings and policy recommendations \(PRISM 2003\)](#) is also now available and its findings and conclusions are structured around PRISM's four key research themes: the emerging new theory of the firm, measurement implications, issues for the business community, and policy issues.

The report's findings are extensive and to summarise the findings and recommendations for each of the four themes is beyond the purpose of this report. However, we wish to highlight some of the powerful models that have been developed by PRISM to help communicate the key concepts of its research. We conclude this section on PRISM with a focus on some of the report's policy recommendations.

The power of an elegant diagram or dramatic metaphor to illustrate complex phenomena or concepts is a fact well recognised by PRISM. They have produced a number of models that show the development of their thinking since the beginning of the project and we highlight them below.

The first model is what PRISM calls its 'double torus' (See Figure 4). This model represents the 'continuous dynamic interplay between tangibles and intangibles that

leads to value creation’ and the aim is to also show that there is ‘no boundary separating tangible and intangible factors’. The model also captures the dynamic nature of the ‘knowledge flows’ in the KBE.

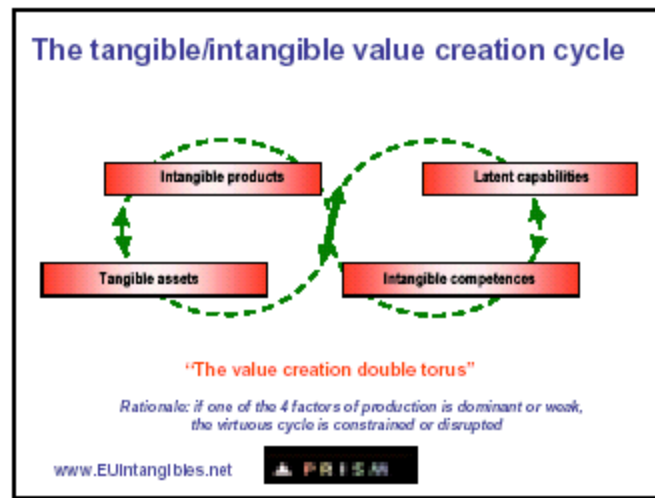


Figure 4. The ‘double torus’ (PRISM 2003).

Figure 5 represents PRISM’s view of the emerging resource or assets base of the 21st Century enterprise, and it is interesting to note how PRISM is now using the terms ‘intangible competencies’ and ‘latent capabilities’ – this is a recent development.

With this model, the report makes the following point:

Our starting point is that successful players in today’s open competitive markets must have access to a nexus of unique, or at least difficult-to-replicate, capabilities, competences and quasi-assets in order to stay ahead of the game. These value-drivers can be conceptualised in terms of four resource groupings:

The schema presents the various tangible assets, legal rights, competences and capabilities that constitute the extended asset base of a modern enterprise. Some lie within its physical and legal boundaries while others are to be found outside within its network of influence. They also lie along a continuum. At one end we find the ‘soft’ intangibles that are difficult to isolate and value, often termed embodied intangibles, whose economic influence – and hence value – depends on complementarities with other assets...The left hand segment...constitute the main components of the current reporting model (PRISM 2003:14–15).

The resource base of the 21st century enterprise



Figure 5. The resource base of the 21st Century enterprise (PRISM 2003).

Competitiveness is derived from orchestrating these resources

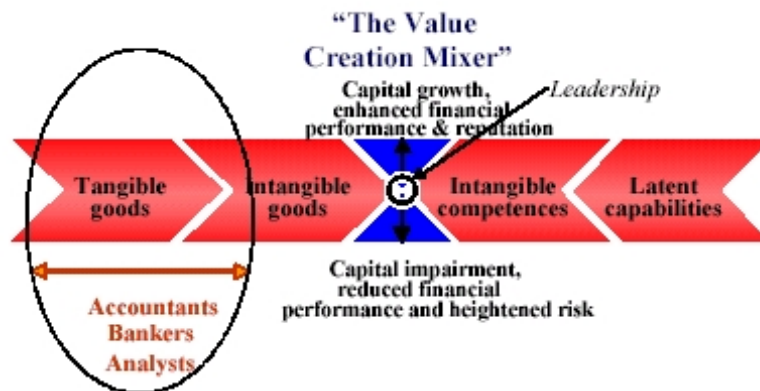


Figure 6. The value creation mixer (PRISM 2003).

Figure 6 (above) shows the central importance PRISM attaches to leadership within an organisation, and on this point the report makes this comment: ‘comparative advantage and value creation are an outcome of orchestrating these resources, which today is the defining characteristic of business leadership and management’ ([PRISM 2003](#)).

In the section headed, ‘Issues for the business community,’ we find a number of recommendations that relate specifically to the activities of governments and public institutions within the EU. We believe they also have significant relevance for the VET sector in Australia, and we take this opportunity to quote them in full.

It is important that governments and public institutions at the various levels are fully apprised of the relevance of our knowledge assets and representation of intangibles, not only for general economic growth, but also for the management and development of their own organisations and the public sector workforce. In many respects the measurement issues are common to both the public and private sectors. Notable differences are that the public sector organisations do not have traditional shareholders and that they produce many non-financial outputs such as services to the citizen.

E-government services are growing in parallel with similar developments in the private sector. Most governments in developed countries are placing a great deal of emphasis on developing online services to citizens and business. Considerable resources are being committed to related initiatives under the general heading of ‘e-government’. In addition to the traditional stock of public intangible assets (patents, licenses and other exploitation rights), many of these initiatives are themselves creating new intangible assets such as fee-earning online services. Just as in the private sector, the execution arms of all EU public administrations are thus continually creating new intangible assets that are owned by government and capable of generating new revenue streams.

Most government departments have yet to develop a clear approach to managing and protecting these assets; rather, they are at an early exploratory stage and keen to learn about developments elsewhere.

In this regard, two main policy deficiencies need to be addressed:

- While government policies stress the importance of the knowledge-based economy for the private sector, they do not carry this through to government departments and agencies; and
- Benchmarking of the public sector generally omits intangible assets.

Our research would suggest that much more value could be generated from these intangible assets, which would allow the government in turn to cut costs by reducing funding ([PRISM 2003:40](#)).

The final part of the report sets out a number of general policy recommendations for the EU, and we confine our summary of these to innovation and the role of networks in knowledge diffusion:

- Encouraging and supporting the creation of networks is an important policy for innovation and knowledge diffusion.
- Another focus regarding networks is to ensure that the bargaining power within the network is equally distributed among network members.
- A central element that manages the network without seeking to appropriate the benefits seems to be useful in this respect.
- It is important to recognise that innovation networks should not be too extended geographically otherwise the collective intangible assets cannot be built. In this context, further evidence is needed on how innovation networks work and have success ([PRISM 2003:42](#)).

At the time of writing this report, the future of the PRISM project was unclear. This final report brings to a close its second, and apparently final, funding stage. Nevertheless, its website is still up and running, and if one reads between the lines of the report it seems to assume that PRISM will have an ongoing presence.

The MERITUM project

The MERITUM project (MEasuRing Intangibles To Understand and improve innovation Management) was funded by the European Commission under its Targeted Socio-Economic Research (TSER) program from 1998 to 2001. The MERITUM project goals were:

- To provide insight into the process of transforming intangibles into increased wealth. How are they managed and accounted for and how do they contribute to growth and employment?
- To develop guidelines for the measurement and disclosure of intangibles.

The MERITUM project produced a range of case studies and useful models from comparisons between findings in six European countries (Denmark, Finland, France, Norway, Sweden, and Spain).

The main principles on which the project was based ([MERITUM 2001:11](#)) were the following:

- Innovation is nowadays a *sine qua non* condition for competitiveness and thus for increase of growth and employment.
- The economy is now knowledge-based, which means that intangibles appear to be more important than tangibles for productivity gains, profitability and wealth creation within companies. The creation of technological capabilities in particular, and the development and implementation of innovation strategies in general, is no doubt a fundamental part of that knowledge-based economy and, therefore, must be considered as a critical part of intangible activities.
- Competitive advantages of firms are based on their ability to create value; in such a process of value creation intangible investments play a crucial role.
- Intangibles are very badly measured and therefore main decisions (resource allocation, investment, science and technology policy, etc.) are based on uneasy and feeble grounds. One of the major difficulties in measuring intangibles rests in their tacit nature; they are often the result of organisational learning and of a complex process of the knowledge socialisation within the firm.
- The managerial resource selection process of intangible resources plays a crucial role in understanding why firms differ and exhibit differential competitive advantages that are translated in above-normal economic returns.

The MERITUM principles are highly relevant to the situation for VET organisations and the innovation agenda of the Victorian Government as outlined for VET in the

Ministerial Statement ‘Knowledge and skills for the innovation economy’ ([OTTE 2002](#)).

The MERITUM project developed a series of ‘Guidelines for managing and reporting on intangibles’ (MERITUM 2002). The guidelines are a practical set of tools for businesses to use. The meeting with Professor Sánchez provided an excellent insight into the development of the guidelines and the processes used to work with the case study companies in the first stage of the project. She also provided a high-level analysis of the field. It was a stimulating discussion that, for the authors, confirmed the value of the MERITUM research.

Some of the main points to emerge from the discussion included the following:

- The term ‘intangible assets’ seems to be a very loose one and often used interchangeably with intellectual capital, and there are many ways in which the assets can be described.
- Every business is unique and for most of them the process of using the MERITUM guidelines has been as important as whatever statement or plan is produced.
- The guidelines focus on using the management and measurement of innovation to achieve business goals.
- The guidelines provide a practical set of techniques to work out how the business goals will be achieved. This is done through the identification, measurement and application of intangible assets.
- The intangible management system can be split into three non-linear and related phases: identification of intangibles, measurement, and action.
- Seeing the connectivity within organisations and the cause and effect relationships with the internal and external environment is at the core of establishing this conceptual framework.
- These techniques are different to strategic planning because their emphasis is on knowledge and how it is used successfully within an organisation. It offers a set of techniques for bringing a consideration of knowledge into existing processes.
- Measurement is a critical part of innovation; it needs to be innovative too.

- Measurement without management is useless.
- Just recording your intangible assets is not enough, the real benefit is in how they are applied and used by a business. This is no surprise, but recording is often where the process finishes. These conceptual frameworks should visualise what organisations do with their knowledge, instead of just measuring what they have.
- Difficulties arise when:
 - The dynamic aspects of intangible assets are not considered.
 - Connections are not made between intangibles and the financial aspects of the business.
 - The importance of social capital and partnerships are not considered fully.
 - The influence that cultural differences have on the management and measurement of intangibles is not considered fully.
- ‘Keep digging till you get to something concrete, measurement will only work once you do this.’

As Professor Sánchez noted:

The aim of these practices and procedures is, first, to make better use of what already exists (knowledge spread within the organisation and outside), second, to stimulate the innovation process (through recombination, synergy, transfer) and, third, to transform the stock of knowledge into a direct stock of value (through intellectual property, licensing). A raft of evidence and cases show that these practices are being used more and more frequently and that their effect on innovation and other aspects of corporate performance is far from negligible. The adoption and implementation of knowledge management practices may be seen as a vital stage in the corporate move towards a knowledge-based economy (Professor Sánchez, personal communication 2003).

Like PRISM, the MERITUM project has also developed a number of models to represent its work and these are shown below.

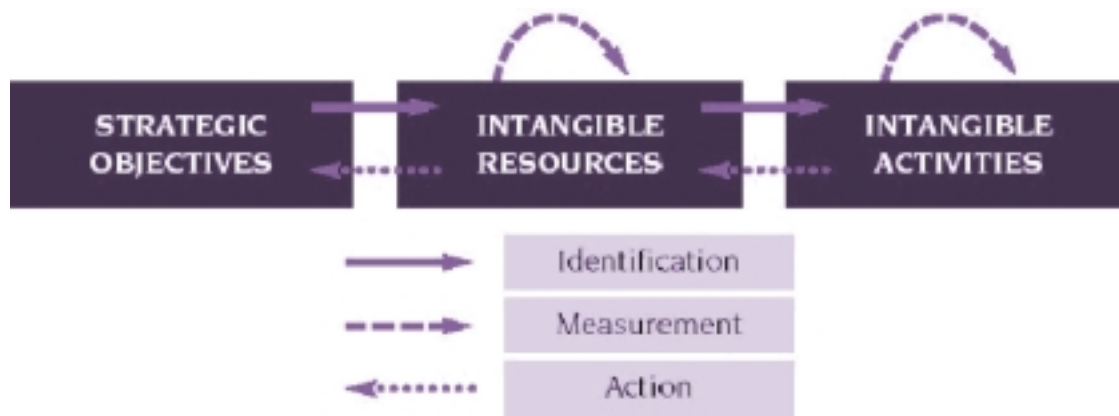


Figure 7. 'A comprehensive model for the management of intellectual capital' (MERITUM 2002:77).

STRATEGIC OBJECTIVE	INCREASE MARKET SHARE		
Critical Intangibles	Maintain and attract key employees	Innovative capacity	Customer approach
Intangible resources to create or develop	Highly trained people	Patents	Loyal customers
Intangible activities to improve resources	Training activities	R&D activities	Direct marketing
Intangible activities to assess results	Employee Survey	Analysis of R&D rate of return	Customer Survey

Figure 8. 'A breakdown of intangibles' (MERITUM 2002:70).

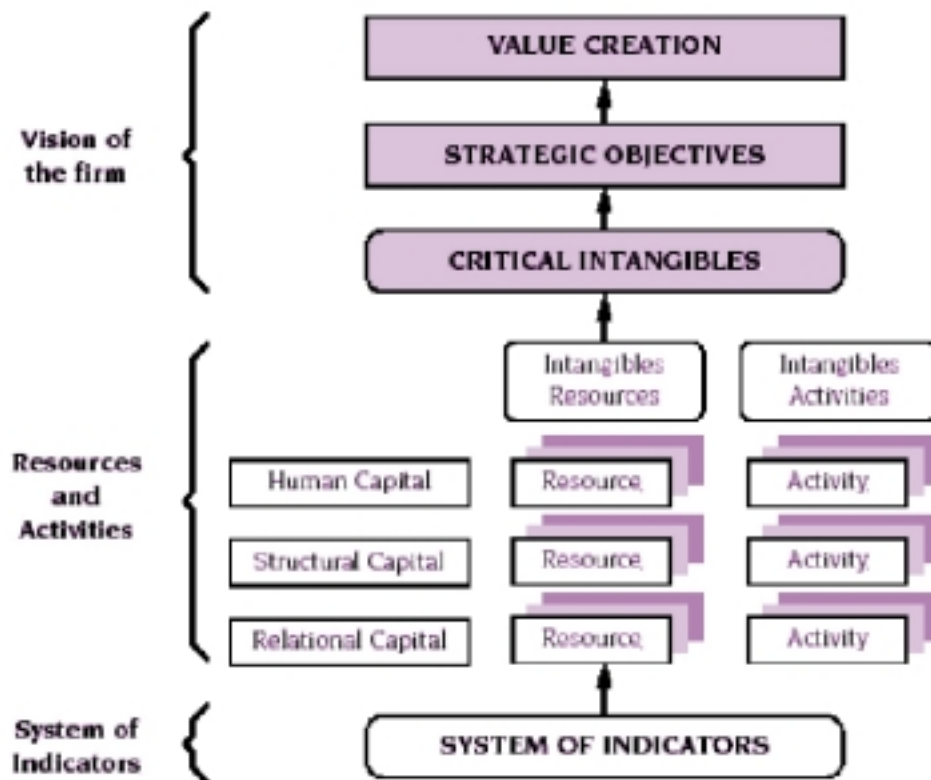


Figure 9. 'A schema for the presentation of intellectual capital statements' (MERITUM 2002:83).

Tools for managing intellectual capital

A significant challenge for any organisation is how to effectively identify, manage, utilise and measure its knowledge assets. There are numerous tools, methods, software packages, books and experts to choose from in this field. Some of the best known include [Svieby's Intangible Assets Monitor](#), [Edvinsons's Scandia IC Navigator](#), [Kaplan and Norton's Balanced Scorecard](#) and [Baruch Lev's](#) work on managing intangible assets.

In the following section we focus on one of these approaches: the Danish initiative for managing knowledge and intangible assets called [Intellectual Capital Statements \(ICS\)](#).

The Danish Intellectual Capital Statement (ICS)

The authors were fortunate to see Professor Jan Mouritsen of [Copenhagen Business School](#) present at the [PRISM conference](#) on how to manage and measure the sources

and resources of competitive advantage in 21st Century organisations ([Mouritsen 2003](#)).

Professor Mouritsen has worked extensively in this field and has ongoing involvement with Danish companies in developing Intellectual Capital Statements as part of a four-year-old government-sponsored project. His research focus includes identifying the characteristics of the emergent business and organisational forms, the possibilities of developing a set of indicators that provide a cogent and consistent measurement of a firm's immaterial, intellectual and knowledge resources and how Intellectual Capital Statements can be used as managerial tools.

Following the London conference, Mark Landy met with Professor Mouritsen in Denmark to further discuss his work relating to the ICS. The main points of this conversation with Professor Mouritsen are described later in this section. But first we explain why our interest in the ICS, and then we follow this with a brief explanation of its main features.

So what attracts us to the possibilities of the ICS? Primarily we believe that the ICS has certain advantages over other KM tools and techniques and these include:

- Developing an ICS is a 'social process', not a technological or software solution 'looking for a problem'.
- An ICS has both an internal and external focus, with a strong emphasis on precision and action.
- An ICS should be written as a succinct statement of an organisation's knowledge management strategy.
- The focus on 'use-value' (see below) seems to provide a powerful and incisive way for an organisation to integrate its knowledge resources and develop a clearer understanding of its organisational goals.
- An ICS identifies a business strategy and model for managing knowledge.

To test these assumptions, TAFE frontiers will develop its own ICS in 2004.

What is an ICS?

The goal of an ICS is that it identifies ‘a business model of knowledge’, something Professor Mouritsen argues that ‘strategic plans often do not do’, and that an ICS reports ‘not on the value of knowledge, the amount of knowledge, nor on the departments producing knowledge, but on organisation-wide knowledge resources that in combination are capabilities, which make it possible for the firm to act – to do something’ (Mouritsen et al 2002:10–29).

Central to the notion of an ICS is a ‘use-value’, which explains and makes visible the relevance of the firm’s knowledge resources to a ‘community of users’. Or to put it another way, an ICS object is to make explicit what an organisation has to ‘master to provide value-in-use to somebody’. Professor Mouritsen also points out that concepts like innovation and flexibility suffer from similar shortcomings as mission statements and values – too often they are vague or open to any number of interpretations, rendering them of little practical value beyond ‘feel-good’ statements. To help organisations develop an ICS, the Danes have made available comprehensive [guidelines for intellectual capital reporting \(MSTI 2003\)](#) and these show how to prepare and analyse an ICS, including several case studies and examples.

The components of an ICS

There are four components or dimensions to an ICS: the knowledge narrative, management challenges, initiatives, and indicators. Each dimension is explained below.

- The *knowledge narrative* ‘expresses the company’s ambition to increase the value a user receives from a company’s goods or services. The knowledge narrative shows which types of knowledge resources are required to create the ‘use-value’ the company wants to supply. The narrative occurs from the merging of the user’s and ‘the company’s knowledge resources into a whole’.
- *Management challenges* show the firm’s business model in relation to the development and use of knowledge resources. Management challenges ‘highlight the resources that need to be strengthened through in-house development or

through sourcing them externally’. Management or business challenges tend to ‘have a certain degree of permanence over time’.

- *Initiatives* show how the firm will respond to the management challenges. These tend to be more ‘short-term actions’.
- Finally, *indicators* make the initiatives ‘visible by making them measurable’ (MSTI 2003).

These four dimensions need to be seen as a ‘whole’, as ‘interrelated’ components and we need to resist thinking of them in a ‘linear translation from strategy to evaluation’ (Mouritsen 2003a). How they work together to ‘ensure coherence’ is demonstrated in Figure 10. You can see how it is possible to work backwards with an ICS and start from the *initiatives*, rather than the *knowledge narrative*.

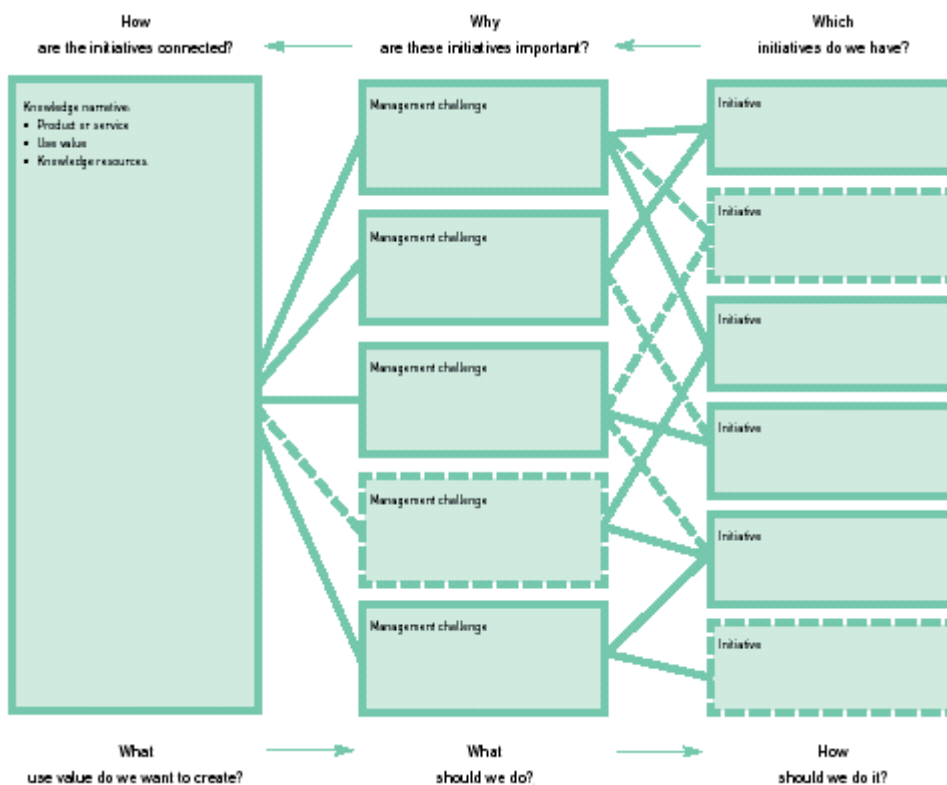


Figure 10. Help questions to obtain coherence in intellectual capital statements (MSTI 2003).

The ‘use-value’ – that is, the value that the product or service has for the user or users – helps define how an organisation develops its knowledge resources. By asking the following questions an organisation can determine the ‘use-value’ for its products or services:

- What product or service does the company provide?
- Who is the user?
- How is the product or service used?
- How does the product or service benefit the user?

Danish experience shows that the more a company knows about why its products or services are being used by its customers, the greater is its understanding of ‘use value’.

Why are Danish firms using the ICS?

Survey results from Danish companies indicate that they have specific internal and external objectives for using an ICS, with knowledge and innovation uses featuring prominently in both.



Figure 11. Proportion of Danish companies showing internal objectives for using an ICS (MSTI 2003).



Figure 12. Proportion of Danish companies showing external objectives for using an ICS (MSTI 2003).

The ICS and VET

How might an ICS benefit Australian VET organisations? In general terms, VET organisations like any other business have a need to acquire, develop, share and manage knowledge. Given that managing knowledge is the fundamental business of VET, having strategies to improve how this can be done is surely worth investigating.

Second, current reporting practices focus predominantly on the financial position and assets of an organisation, with little systematic recording of non-financial assets. Indeed, it has been fascinating to examine the current annual reports of Victorian TAFE Institutes, and analyse them in light of our research findings and project experiences. The reports bear out conclusions found in the literature; that current reporting is overwhelmingly financial in nature – although it has to be said that often running through these reports is a kind of ‘knowledge narrative’ that describes non-financial activities, such as community-building, innovating, leading, and so on. However, from an outsider’s perspective, it was often difficult to untangle this information, making it difficult to assess the extent to which Institutes are meeting the various ‘intangible’ goals that are to be found in mission statements and Institute strategies.

Third, as policy initiatives such as ‘Shaping our future’ ([ANTA 2003](#)) are increasingly directing VET to be more innovative and flexible, new management strategies that take into account the complexities inherent in this task need to be investigated.

Applying an ICS to a VET organisation

In discussion, Professor Mouritsen was asked to respond to this series of questions:

- How might a VET organisation make use of and benefit from an ICS?
- If, for example, every TAFE Institute in Victoria developed an ICS, how would a body such as OTTE make sense of them with regard to its strategic planning?
- To what extent would an ICS be an effective indicator of Institute health and performance?
- What use might be made of the Ministerial Statement ‘Knowledge and skills for the innovation economy’ ([OTTE 2002](#)) and how might it contribute to be the development of an over-arching ICS for the sector?

In response to these questions he outlined this possible scenario and its benefits.

To be truly effective the funding body, in this case OTTE, might develop its own ICS for VET. The core features of this ICS would provide the basis for individual Institute ICS development. The ‘Knowledge and skills for the innovation economy’ statement is a valuable starting point in that priority

areas and targets have already been identified, so you could take innovation and specify what this might mean under sub-headings such as teaching and learning innovation, organisational innovation and so on. Institutes would then have the flexibility to respond as they saw fit under these headings (Professor Mouritsen, personal communication 2003).

Taking this lead, we could argue that establishing a statewide ICS, as outlined above, would encourage broad alignment between the ICSs of government and Institutes. Moreover, such a development might well provide the structure to position and substantiate innovation at a 'systems level' and enable Institutes to monitor and report to stakeholders and funding bodies on their progress towards the agreed goals. Professor Mouritsen also had these general comments to make about the process of developing an ICS:

- While starting off can be difficult, 'the process itself helps to encourage reflexivity in an organisation and steers an organisation towards precision and specification of its key knowledge tasks'. He suggested that a good place to start the process was to not focus on the barriers so much, but rather find examples of 'where knowledge works, within an organisation, where it makes a difference, find the continuities and connections so that you identify the knowledge resources and importantly the linkages between them and you identify why this is successful'.
- Often working on an ICS has unintended benefits in that the 'process leads to a degree of consolidation and integration of resources', which of itself is valuable.

And on the possible difficulties and pitfalls, Professor Mouritsen offered this advice:

- The initial stages of writing an ICS can be difficult – 'so start with the indicators rather than tackling the knowledge narrative, as this may be too daunting'.
- 'Keep the broad objectives in the foreground'.
- 'Do not make the ICS overly complex – go for fewer management challenges'.
- 'More often than not the information to develop an ICS does exist within an organisation; it's just that people may not be aware of it, not know where to find it – or it is not being used in a systematic way'.
- 'Don't let the numbers, that is the measures, get a life of their own'.

- ‘Reinforce the knowledge narrative at every opportunity’.

Finally, it is worth noting his observation about the nature of knowledge and the implications for managing it. Professor Mouritsen makes the point that through knowledge we create insights ‘that transform the world and the more knowledge we have the more the world will be transformed and therefore the knowledge society must be a fragile one – always on its way somewhere else’.

If we accept this proposition, it raises some profound questions for our sector about how we might respond to this state of apparent permanent flux and uncertainty. However, these are questions for another time.

Section Four Emerging organisations

The research interviews

In this section we report on the face-to-face interviews we conducted with Victorian VET personnel in 2003. In total we conducted 12 interviews with various TAFE Institute directors, TAFE Institute senior managers, OTTE personnel, and academics. In most cases these sessions were audio-taped, and selected comments from these interviews can be found in the text below.

Undertaking an intensive study of VET senior managers and organisational innovation was a task beyond the scope and resources of this project. Nevertheless, we did want to get a selection of the views from senior executives on some of our key research themes – namely, intangible assets, organisational change, innovation and performance measures. Importantly, we also wanted to test the relevance of our model of sustainability – IAN.

Overall, we have found that the interviewees here and overseas responded positively to IAN as a model of sustainability. They could see its relevance for VET and it proved a useful discussion starter for introducing the concept of intangible assets. The CEOs and senior managers all recognised the importance of intangible assets for their organisations, and they spoke at length of how they have tried to encourage new ways of thinking and working within their Institutes – so much so, that most of the interviews ran well over time. What does this tell us about the need to discuss these matters?

This aspect of their work – overhauling their organisations – is seen by many as their most demanding and important task. We would like to say that we came away from these interviews with a real sense of having had the opportunity to peer inside, if only for a short time, the complex ‘life-world’ of some of our major VET organisations.

A final word about our research questions. As our project progressed, it became clear that focusing our attention on innovation at the level of the organisation, and to some extent the individual, has certain limitations. The extent to which an organisation can be innovative is obviously influenced by factors outside of that organisation, such as

initiatives and movements at the state and national levels. To cite Kaye Schofield (2003) again, system-wide ‘incentives’ and ‘disincentives’ play a major role here. As we continue to work on our model in 2004, we will take these system-wide factors into consideration.

Interview question set

Our interview questions included the following:

- How do you as CEO encourage and establish the conditions for innovation and adaptability in your organisation?
- How is organisational change mobilised?
- How does your organisation capitalise on this?
- How do you recognise, measure, report on and evaluate innovation and other types of intangibles?
- Please give examples of innovation in your organisation?
- The prevailing view is that we need to measure what matters – what matters in your organisation?
- What are meaningful and appropriate performance measures for VET organisations and the system in general?

Encouraging innovation

The responses below are not exhaustive; instead they represent the salient themes to emerge from the research interviews.

In response to the question of how do you as a CEO/senior manager encourage innovation in your organisation? one image emerged above all others and this was the need to ‘create space within an organisation’.

This notion of ‘space’ and its relationship to innovation appears to work on a number of levels – having both a literal manifestation and a metaphorical expression or resonance. In the first instance, ‘creating space’, literally refers to the efforts of CEOs to physically reorganise, or ‘free up’ organisational structures and processes. (There is a nice synergy here with the point in the PRISM report that says the key task of

managers is to ‘orchestrate’ the resources of an organisation for competitive advantage). The interviewees saw it as their responsibility to lead, and find the ways and means to establish organisational space (and time) and ‘the right kinds of conditions’ so that innovation can occur. Finding or creating the ‘right kinds of conditions’ seems to depend very much on the circumstances and culture of the individual organisation concerned. (On the role of managers in this process, there is a fascinating debate in the literature about the extent to which management can either enhance or stifle innovation in their organisations – particularly if one views an organisation through the prism of complexity theory and the ‘predisposition of human social systems to innovate under their own steam’ ([McElroy 2002](#))).

The responses of the CEOs and managers we interviewed indicate that they favour a management role that ‘intervenes’ to the extent of setting up the right kinds of conditions, or operating environment, that enable and sustain innovation. As one CEO put it, ‘It is a delicate balance between building increased staff autonomy and accountability’.

Let us now turn to the other dimension, the perhaps more metaphorical significance of ‘creating space’, and see how this also works on multiple levels.

Is it too simple to equate the freeing up of organisational structures and processes with innovative thinking? Possibly so, but from what the CEOs described, innovation and new ideas often emerged when staff had the ‘conceptual space’ or ‘opportunities for fresh thinking’ that freed them from the routine demands of their day-to-day activities. While this is hardly an original observation, it is a fact that can be easily overlooked in the time-pressed, hurly-burly of VET organisational life. It might be obvious, but finding ways to provide staff with the time and space to think freely, and as long as they are encouraged and supported to do so, can, as one interviewee so vividly put it, ‘open up the organisation to the possibility of other futures’. To address this need, Institute-based innovation projects that included time-release, emerged as a favoured approach. One CEO also spoke of the constraints facing relatively small organisations and how this impacts on the extent to which an organisation can ‘find the funds or the space for innovation – often you are sailing very close to the wind financially’. However, the same CEO also said that this apparent disadvantage can be offset because a smaller organisation can be ‘nimble and less bound up by hierarchies’.

It was also recognised at the senior executive level that they also need their ‘own space’ so they too have the opportunities to ‘discuss the big issues – for example the Victorian Government’s Ministerial Statement, ‘Knowledge and skills for the innovation economy’ ([OTTE 2002](#)) – and what should be the response of our Institute’. The need to guard against their role becoming ‘too operational’ was a commonly expressed view and this management self-awareness is neatly captured in the following quote: ‘I want to be a helicopter pilot for this organisation – not a submarine captain. I don’t want to find myself being weighed down with problems that have been passed up the line to me’.

The majority of CEOs also nominated the financial health of their Institutes as a necessary condition for innovation. It was seen that without this secure underpinning the opportunities to ‘free up funds’ for innovation projects, or to have some ‘degree of leeway to try something different’, becomes severely limited, as the money is simply not available, because ‘delivering on the core functions of the Institute – the student contact hours – has to be the number one priority’.

What was described as a ‘healthy organisational climate’ also made it as a pre-requisite for innovation. One interviewee made some particularly telling comments about the nature of their organisational climate and its relationship to certain intangibles, and in doing so identified some of the inherent tensions that exist in a shifting VET environment that is trying to balance competition and co-operation. These comments are worth quoting in full:

The defining characteristics of a ‘competitive culture’ may not be the ones you want when we are building trust, relationships, networks etc. The qualities that are required to succeed in a competitive environment may well militate against the setting up of co-operative relationships and structures. In addition, the negative consequences of the amalgamation are still being felt. This place is still working through the competitive culture and its implications that were encouraged by the previous director (Research interview 2003).

We believe these interviews confirmed the research findings that if an organisation is to be innovative the role of the leaders in that organisation is of fundamental importance. CEOs and senior managers have the wherewithal, and importantly the power, in their organisations to ‘create the space’ needed for innovation. This ‘space’,

operating as it does on a number of levels, may take the form of dedicated projects, professional development opportunities, streamlined procedures, the creation of websites or the introduction of knowledge management systems. CEOs and managers largely set the tone, and balance the mix, that nurtures an organisational climate that is conducive to new ways of thinking and working. Also they must be prepared to 'let staff go and try things on their own'. Equally, management needs to be able to identify and remove the organisational barriers that stifle innovation. Conversely, it was also recognised that putting largely administrative process in place, thinking that this alone will work as the catalyst for innovation, is a misguided and inadequate approach to the multi-dimensional nature of what is required. If there is one lesson to be gained from these interviews and the research, it is that innovation is unlikely to occur in 'splendid isolation'. Innovation must be recognised for what it is: 'a complex social process' as much anything else.

It would be misleading to suggest that the interviewees saw this as a straightforward task without significant challenges. Our experience indicates that, without exception, CEOs and managers are keenly aware of the nature and scope of the challenges they face in 'getting the balance right' between 'doing what we always do – the core business – and innovating'. Managing the inherent risks in such a balancing act is a subtle and critical management skill – as one CEO said, 'perhaps more of an art than a science'. Finding ways to increase the sector's understanding of the significance and volatility of intangible assets and their intrinsic link with innovation should be encouraged and opportunities for analysis and discussion around Lev's 'innovation span' (Lev 2001), or the questions raised in the aforementioned conference presentation by Schofield ([2003](#)) might be very useful starting points.

Returning to the matter of innovation, the authors believe that further research aimed at probing more deeply into the dynamics and nature of the 'innovation space' and how it 'works' to create or hinder innovation in VET organisations would be a revealing and useful exercise. Consideration should also be given to the implications of the observation that the competitive milieu that VET has been working in, and the individual and organisational characteristics developed in this setting, have a tendency to rub against the kinds of personal attributes and skills needed to develop and sustain

mutually supportive networks, trust and relationships, these being the foundations of sustainable organisations.

Our research group were acutely aware of the importance of intangible assets for their various organisations and their observations cited throughout this section are evidence of this fact. As mentioned earlier in this report, a scan of the 2003 annual reports of Victorian TAFE Institutes revealed the range of efforts being made to report on intangible assets. Nevertheless, as we have noted previously, the measurement and reporting of intangible assets is not being undertaken in a systematic way.

The interviews also revealed how widespread and deeply held is the belief that in today's business world, VET organisations need to be 'connected'. As one interviewee put it, 'to be sustainable and grow as an organisation you have to have friends'. Or it was common to hear something along the lines of 'we can no longer do it alone' in recognition of the importance of networking and developing collaborative relationships.

On the vexed issue of identifying more meaningful and appropriate performance measures for VET Institutes, we can only make some tentative comments. Not surprisingly, when we raised this question, the discussion soon turned to focus on the current funding model and its various strengths and limitations. The consensus view was that the current performance measures, with their focus on quantitative deliverables – that is, student contact hours (SCH) – tends to drive and define the reporting regime. The creation of alternative funding models, or at least alternative performance measures, would be welcomed. What these might be remains problematic, as we received no clear-cut answers. Consequently, this issue, and the relationship between current funding models and innovation, remains open to further investigation.

How do we compare to overseas?

What we have heard in these local interviews is consistent with the observations made by the managers we met in Europe, and what both groups had to say supports the general thrust of the research literature. The common points of intersection may be summarised as follows:

- The growing realisation that the emerging knowledge-based organisation is distinguished by its fluidity, relative autonomy and degree of 'connectedness' in networks that may be virtual or real, and extend from the local to the global.
- That the logic of this transformation tends to unsettle, even undermine, traditional notions of central control, hierarchies, and relationships, and to propel organisations away from central control.
- As a result of this process we are beginning to see evidence of widening contradictions, or fracture lines, in existing systems, policy settings and funding-models.
- That the relative advantages of economies of scale can be 'neutralised' by organisational 'speed of response' and adaptability – in other words, it's not so much size as speed that counts.
- The growing recognition that organisations need to be increasingly transparent and responsible to their stakeholders.

Section Five Summary

In many ways the origin of this Flexible Learning Leader project began with the asking of what seemed at the time a relatively straightforward question: How should TAFE frontiers measure and report its performance? Little did we know! As we probed and researched, and looked for solutions in other organisations, it soon began to feel as though we had waded into a vast and turbulent ocean of change, one with the potential to sweep one into any number of currents – for example, knowledge management, intellectual property, theories of organisational change, systems theories, measurement, accountancy, and so on. This all seemed rather bewildering at first. Soon however, certain patterns began to emerge, and these revealed important things about the essential character of intangible assets – for example, their multi-dimensional characteristics, and alerted us to the changed nature of our research task.

What of the nature of this task? As we analysed the data, it became clear that we were seeking answers to a much broader question than the one largely concerned with measurement and reporting. It became apparent that our original question had been superseded by another line of inquiry: one that had led us to an investigation of *organisational sustainability*. And as our understanding of this concept deepened, so grew our awareness of the role and significance of intangible assets. As we have tried to demonstrate throughout this report, intangible assets have acquired an importance for business development and sustainability as never before. For our model of sustainability, intangible assets are its *essence*: they are the core elements that define its character and invigorate its function.

Proposing our model, and recommending that VET pay increased attention to the matters outlined in this report, should not be construed as an implicit criticism of current VET practice. The VET sector has demonstrated efficient management of its tangible assets and its capacity to respond to various challenges time and again. Nonetheless, the business landscape has been changed utterly by global economic forces and technological advancements. As the research shows, we can no longer assume that time honoured ways of working will be effective in meeting the emergent challenges of the knowledge-based economy. Moreover, the findings from projects such as MERITUM, PRISM, and those of the OECD, reveal the conceptual and

practical limitations of applying conventional thinking to the management of systems and organisations in an economy and society that is reorganising itself in fundamental ways. Clearly a major challenge before us, and one well recognised by the senior managers we interviewed, is keeping ‘in step’ with the times. This is not an easy task, but there is much we can draw on from the European experience and research, by way of models, tools and techniques that could be adapted and used to meet the specific conditions and pressing needs of our sector.

This project has led us to conclude that the quest for sustainability in VET is inextricably bound to a consideration of intangible assets, including intellectual capital. On a system-wide level and indeed for each Institute, a greater acknowledgment and appreciation of intellectual capital will, to use a quote from our interviews, ‘open up...the possibilities of other futures’.

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There is a vast amount of literature available on this topic. Where possible in this report we have hotlinked the cited references. Some of the key references we have repeated below.

Further reading

General

As noted, the portal, Intellectual Capital Services at <http://www.intellectualcapital.nl> is as comprehensive a guide as you could wish for, with links to journals, books, papers, tools, techniques, people, etc. Many of the references cited in this report can also be accessed from this site as well.

Australia

The work being done by Australian Bureau of Statistics on measures for a knowledge-based economy will be well worth following and the bibliography for the discussion paper: [*Measuring a knowledge-based economy and society – An Australian framework*](#) is comprehensive, listing Australian reports and many of the key OECD documents. Go to <http://www.abs.gov.au> and click on 'Australia Now' on the homepage.

The National Office for the Information economy (NOIE) <http://www.noie.gov.au/index.htm> is also a resource rich website. As an Executive Agency, NOIE has direct responsibility for the development and coordination of advice to the Australian Government on information economy issues.

Europe

To trace the history of various European intellectual capital initiatives since the mid 1990s, including the OECD, see the website, European Observatory on Intangible Assets at <http://www.ii-a.fr/intangibles/>. Alternatively, view the papers from the *Symposium on measuring and reporting intellectual capital: Experience, issues and prospects, Amsterdam, 9–11 June 1999* from the OECD website at <http://www.oecd.org/home/>, as these provide another historical viewpoint.

For the latest overview (and useful introduction to the field), see the PRISM Conference Proceedings 2003, and ‘The PRISM report 2003: Research findings and policy recommendations’ at http://www.euintangibles.net/research_results/.

The proceedings and report are organised around three key themes that represent items of major interest for the PRISM group. These themes are:

- Understanding and measuring value creation in the 21st Century macro economy.
- Creating value: Challenges for firms in the 21st Century.
- Auditing and analysing value creation in the capital markets.

Another site we recommend is E*KNOW-NET at: <http://www.eu-know.net/home.php>, which has a core group made up of highly renowned researchers representing six European countries. It builds on the results obtained from the [MERITUM](#) project, where 60 firms from six different European countries were involved in measuring, managing and reporting on intellectual capital.