



THE ROLE OF GOVERNMENT AGENCIES AS MARKET PLACE PARTICIPANTS IN DIGITAL CONTENT MARKETS

Convergent Consulting Pty. Ltd.

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1.0 Executive Summary

This report analyses the role played by Government Agencies as market participants in the creative digital content industries. In general, it aims to contribute to the following outcomes:

- Identify the processes through which Government Agencies participate in digital content and applications markets (e.g. tendering, partnerships and so on);
- Identify weaknesses and inefficiencies as well as strengths in these processes; and
- Development of strategies through which Government Agencies can most effectively leverage current and future involvement in these markets to assist in the development of the creative digital content industries.

To achieve these outcomes, we have conducted a total of six case studies to examine how Government Agencies have engaged with industry suppliers as a means to stimulate and encourage development within the digital content and applications market.

A brief overview of each case study is provided in Table E1.

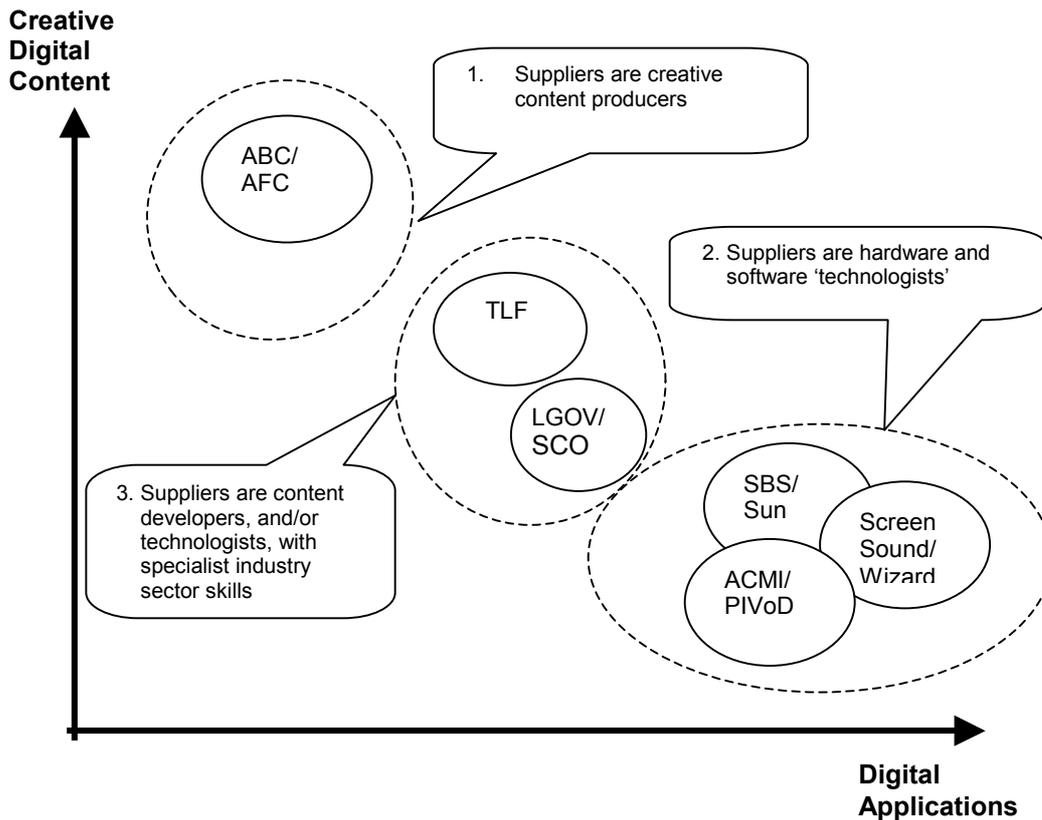
Table E1: Case Study Description

Agency	Case Study Description
ABC/AFC	Reviews the role of ABC New Media & Digital Services (NM & DS) in the digital content and broadcasting markets and, in particular, focuses on its co-production initiatives with the Australian Film Commission (AFC) which have resulted, or will result, in some innovative forms of narrowband and broadband web-based content. Further, we focus on the Tasmanian-based 3D animator, Blue Rocket.
ACMI	Examines ACMI's unique focus on the development of digital content and applications technologies. In particular, we examine an independent supplier, PIVoD, who won the contract to set up ACMI's Media Server Centre in Federation Square, Melbourne.
The Learning Federation	Reviews The Learning Federation's (TLF) \$63m initiative to develop and deploy online curriculum content into Australian and New Zealand schools. The main focus is as to whether the strategies and processes employed are leading to an optimal balance between educational outcomes and industry development outcomes.
Lgov NSW	Reviews Local-e's largely successful initiative in bringing over 100 NSW regional councils onto the web within a short timeframe. Local-e's main supplier for this venture has been Social Change Online (SCO), a company which specialises in web-development for Government, unions and public bodies.
SBS New Media	Examines the unique and largely successful strategies of SBS in incubating, innovating and partnering with suppliers. Specifically, we focus on the relationship with Sun Microsystems that resulted in an innovative interactive TV product.
ScreenSound	ScreenSound's major initiative in the digital application markets has been the development of its library cataloguing system (MAVIS) in conjunction with Wizard Information Systems. This is an interesting case study, as Wizard's relationship role with ScreenSound has evolved, and expanded, over a period of 12 years from that of a software services provider, to that of a marketing and development manager of the successful MAVIS product and, increasingly, as a key partner in exploiting a number of other innovative opportunities.

The case studies presented in this report, provide information pertaining to a wide cross-section of Agency participation within the digital content and applications markets. The breadth of each Agency's business activities, and use of digital content, differs significantly across the case studies.

Figure E1 provides a relatively simplistic way of categorising the case studies in terms of whether the Agency's participation is weighted in the development of digital content, or in the development of applications, that typically might improve access, interactivity, re-purposing, re-use, or re-configuring of content.

Figure E1: Case Study Emphasis on Digital Content versus Digital Applications



As can be seen from Figure E1, none of the case study initiatives, except that of the ABC/AFC, could be described as a purely creative digital content development. This should not be surprising, given that a key differentiating factor between traditional (analog) content and digital content is that the latter is 'born' interactive, and is able to be re-purposed, re-used and re-configured during, and subsequent to, its original production. Hence, one should expect there to be a large component of 'applications' development in the digital era. Indeed, half of the case studies, essentially, encompass no actual digital content production at all.

Given this spread of activities across digital content and applications development, the suppliers to the Agencies tend to fall into three categories, as indicated in Figure E1. Those servicing the ABC/AFC Broadband initiative tend to be creative content producers who have developed, or wish to develop, digital content creation skills. The second group consist of those servicing Agencies with an 'applications' development emphasis and which tend to stem from the IT industry and possess general hardware and software technology skills. The third group is, perhaps, the most interesting, as these suppliers are producing digital content and applications and, also, applying it to specific sectoral applications, such as school curriculum and local government initiatives. This group not only requires an amalgam of creative and technology skills, but also a deep understanding of the needs of the particular sector they are serving.

Another interesting aspect of the case studies is that, with the possible exception of the Learning Federation (TLF), none of the suppliers relies on the Government Agency as a major source of revenue or profit. Hence, it could be said, the Agencies are not 'must have' clients for the suppliers within a particular sector. In fact, the reality is, Government Agency spending on digital content and applications is, in an absolute sense, relatively small. Even when one considers the major potential spenders, such as TLF (with \$63m over 6 years) and ABC New Media and Digital Services (with \$11m per annum), most, or in the case of the ABC, virtually all, of those funds are spent 'in-house', rather than with external suppliers or partners.

While suppliers are not overly dependent on the Government Agencies as revenue sources, we found that they were much more likely to rely on their relationship with the Agency as a key source of innovation and market development positioning. Suppliers such as PIVoD (with ACMI), Wizard (with ScreenSound), Sun Microsystems (with SBS), Blue Rocket (with the ABC), and the TLF multimedia suppliers, all spring to mind in this regard. In fact, each of the suppliers interviewed, expressed that they had picked up considerable knowledge, skills, brand association kudos, and IPR as a result of their relationship with the Agency. Further, many of the suppliers have gone on to exploit these benefits directly with other national and international clients, often significantly beyond the value of the contracts they held with the Agency. As a result, our firm conclusion is that, while Agency spending with digital content and applications suppliers might be small, the multiplier effects on industry development and innovation are very significant and important.

In our analysis of these case studies, we found that many parameters existed that impacted on whether the Agency's strategies and processes were useful in promoting higher levels of innovation and industry development. In particular, we found that those Agencies that possessed strategies and processes aimed at two particular outcomes experienced the most success. As indicated in Figure E2, these outcomes were Agency-Supplier relationships that:

1. promoted a high level of collaboration between the supplier and the Agency, such that a rapid and open transfer of knowledge and skills between the two bodies could take place; and
2. looked beyond the immediate needs of the Agency and actively planned for the exploitation of the content and applications with other buyers/users.

As can be seen in Figure E2, a key strength of most of the Agencies reviewed is that they tend to be quite successful in striking up high levels of collaboration with suppliers (as opposed to contractually driven 'arms length' legal relationships, for example). In fact, other than the ABC/AFC initiative, we believe that the degree of collaboration between Agency and supplier was sufficient to achieve any potential innovation and industry development outcomes that may have flowed from the relationship. (In the case of the ABC/AFC initiative, we feel that more integration between the core broadcasting business and the production of digital content would lead to better outcomes.)

Notwithstanding that most Agencies perform acceptably well in this area, we did observe that certain characteristics ensured exceptional levels of collaboration. First and foremost, the capabilities and commitment of senior individuals in the Agency was critical. It was quite evident, in conducting this consultancy, that successful relationships (and outcomes) were as much a function of the key individuals involved in the relationship as anything else. Indeed, many suppliers remarked that key Agency individuals not only provided considerable vision, energy and intellectual input, but also 'made things happen' within the Agency, itself. Other issues that made the relationships successful were generous approaches to sharing knowledge and intellectual property, commercial neutrality, the ease and speed of decision-making, and willingness to be a reference site. We believe SBS, ScreenSound and ACMI provide excellent case studies, in this regard.

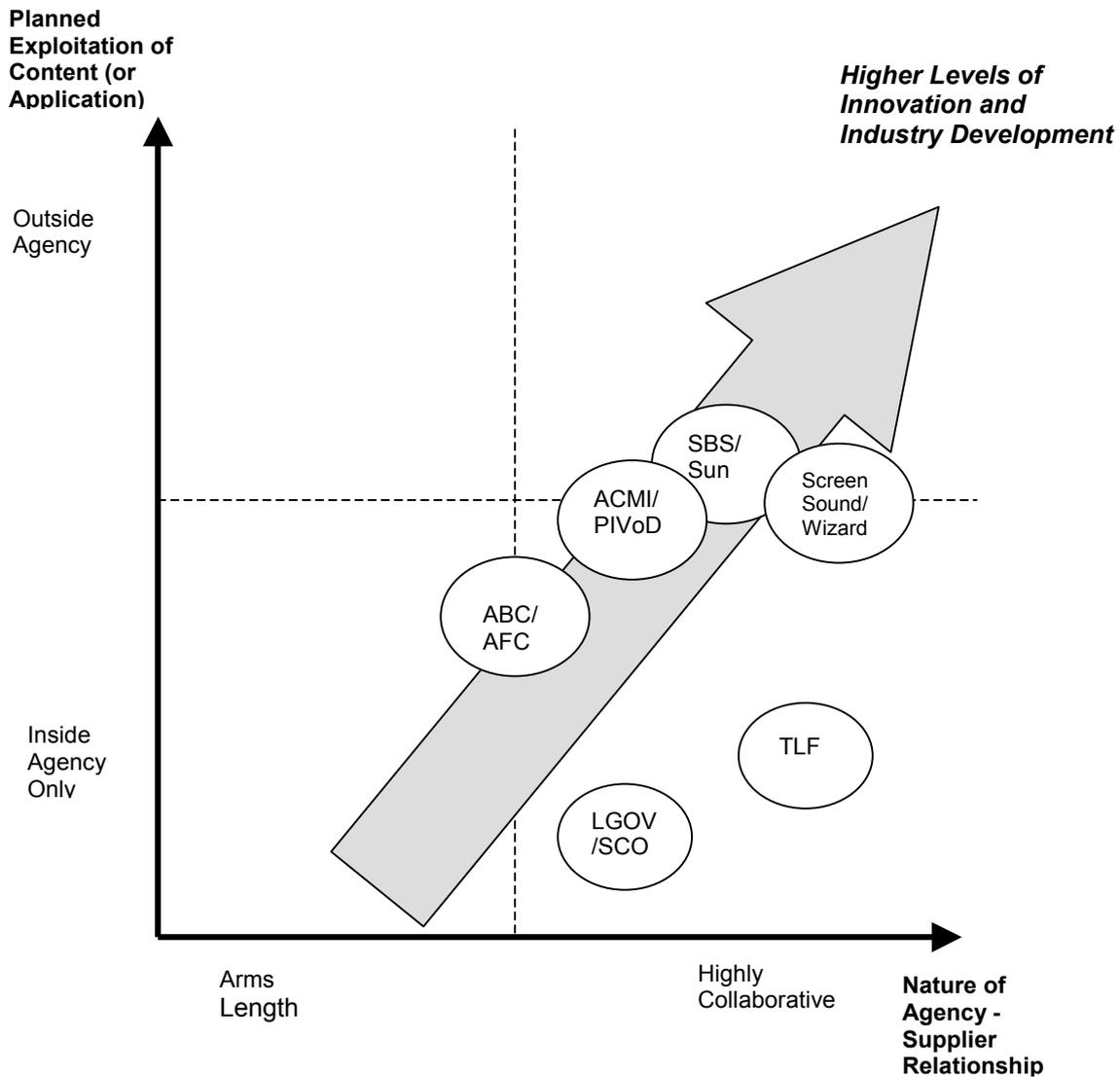
While most of the suppliers were quite content with the Agency relationships around which these case studies centre, this feeling was not generalised across their involvement with the typical Government Agency. In particular, many felt that current procurement practices were an anathema for developing collaborative relationships (see Section 1.12).

A weakness of most Agency's engagement with the digital content and applications market, is that there is not a great deal of planned exploitation of the digital content (or applications) beyond the internal use of the Agency. In fact, each Agency investigated, tended not to look beyond the servicing of their own

immediate operational needs. Only SBS, ScreenSound and ACMI actively factored (albeit, as a secondary consideration) the exploitation of external opportunities into the shape of their relationship with suppliers.

Encouragingly, though, we found one opportunity that attempted to exploit an idea that had, as its prime rationale, the servicing of a market opportunity completely external to the Agency's needs (see ScreenSound's Olympic initiative). Unfortunately, this initiative failed mainly as a result of the limitations under which Agencies operate, such as access to risk capital and the general approach taken to managing speculative risk. See Section 1.11 for more on this issue.

Figure E2: Key factors Affecting Levels of Innovation and Industry Development



It is prudent to point out that none of the Agencies reviewed possess explicit organisational objectives focussed on developing 'Higher Levels of Innovation and Industry Development' (a shortcoming we address in Section 1.14). Indeed, in reference to Figure E2, Agencies, such as TLF and Lgov NSW are, unashamedly, more focussed on serving their own internal needs satisfactorily and do not consider it a priority to develop the supply-side of the industry.

1.1 Common Issues and Recommendations

The remainder of this Executive Summary examines a number of the key issues and recommendations that cut across most of the case studies. We would point out, however, that two case studies (ABC/AFC and TLF), in particular, possess very specific sectoral issues and recommendations that are not covered in this Executive Summary. We request the reader refer to these case studies directly.

We also point out that there is no 'prescriptive' formula for achieving higher levels of innovation and industry development. Each Agency works within its own market context, funding abilities and Charter. As such, the following issues and recommendations should be read as general guidelines, only.

1.11 Access to Risk Capital

In our view, the lack of access to risk capital, and the Government Agency's general approach to managing speculative risk, confines the exploitation of innovative opportunities to those that provide low risk, short-term and directly measurable benefits to the Agency concerned (i.e. there is not a great deal of financial or management consideration given to exploitation of any opportunity beyond the immediate internal use of the Agency). As a result, many speculative and innovative opportunities fail to gain initial support, or are neglected altogether.

We believe this stems from the Government's, and the Agency's, general approach to the management of risk and innovation. This includes the fact that:

- there is little, or no, 'risk capital' made available for supporting innovation and risk-taking ventures. This situation seems to stem from non-commercial accounting and funding practises which, in their allocation and capital, focus primarily on the capital required to maintain existing tangible assets in a functioning state, as opposed to the more commercial view of managing a total 'return on assets' (tangible and intangible), and managing a portfolio of speculative projects (in addition to the core business of the organisation) that secure the future of the organisation. As one cultural Agency head noted, "We get access to, and manage capital, the same way as someone who is maintaining a fleet of trucks does. As a result, we lack the freedom to access capital for any innovative or speculative purposes, such as those that may lead to significantly improved services, productivity gains, or wider economic advantage."; and
- the management of risk is usually measured in terms of "what could go wrong" rather than in terms of "what is the cost in not doing this". As one supplier CEO pointed out, this approach has led to some of the worst decisions that he can think of in twenty years of dealing with Government. Unfortunately, because this consultancy focussed on projects that do exist, we do not provide an extensive overview of ones that don't. However, in our discussions with Agencies, most could allude to many projects that 'stalled on the drawing boards'. The Olympic project, in the ScreenSound case study, provides at least one concrete example where the cost of "what could go wrong" was the ultimate arbiter of that project's demise.

In particular, we note that these very conservative practices pose a particular problem to cultural organisations which possess considerable intangible assets (e.g. an archive) whose utility can, and should be, constantly re-invigorated (e.g. digitised, re-purposed, etc.) and exploited, for as many uses as possible. Without an approach that focuses on maintaining, and/or growing the value derived from an intangible asset, poor options will be taken (i.e. potentially more attractive options to a "do nothing" approach will not even be considered).

1.12 Procurement Practices

Another very common complaint from suppliers is in relation to Agency procurement processes which, in their view, tend to be mechanistic, risk-averse and non-qualitative in scope. Accordingly, such an approach eventually kills off any entrepreneurial approaches made by the private sector towards Government. One supplier notes that nearly every speculative approach towards a collaborative opportunity is now turned into a tender process that has as its prime incentives "risk reduction for Government" and maximising price competition for a standardised product or service. Such a process does not, generally, lead to innovative solutions, and, in fact, most often has the reverse effect.

Another issue raised was the overall cost of the tendering process. This was a particularly 'hot issue' in the TLF case study, although significant improvements have now apparently been undertaken.

A more detailed analysis, and direct supplier feedback on this procurement issue, is provided in the ScreenSound, SBS, ACMI, and Lgov NSW case studies. In particular, we draw attention to ACMI and Lgov NSW who seem to have the ability to run rigorous competitive tendering processes without 'killing' innovation.

1.13 Intellectual Property Rights (IPR)

It would seem that most Agencies, by default, tend to retain the IPR rights to any developments which they sponsor, often, reportedly, spurred on by the legal advice which they receive from their solicitors. Agencies often defend (somewhat justifiably) their IPR ownership stance by emphasising that they are paying for much of the product's original development and that they contribute a great deal of their own intellectual property to the process. However, one supplier noted that he has never witnessed a Government Agency successfully exploit IPR ownership, which, thereby, ascribes a zero value to the IPR.

In one case study, ScreenSound retained IPR ownership, but sold the marketing and development rights to its commercial partner, Wizard. At first glance this may seem a reasonable compromise, but, as Wizard points out, because the ownership of IPR is owned and controlled by a 'third-party' who has the power to influence future product design decisions, international clients can be reticent to purchase the product. In other cases, suppliers have noted that, even with well-meaning intentions, it is a long and complex process to get decisions from Agencies with regard to exploiting IPR to other prospective clients.

A number of suppliers note that, in the vast majority of cases, the Agency's use of content and applications could be protected by contractual licenses or 'rights of use'. Their clear preference is that they would own the IPR, or at the very least IPR ownership would be a point of negotiation in the supply process. In fact, Agencies might receive better supplier arrangements if they ascribed a value to IPR and waived this to suppliers. For example, SBS and ACMI are very non-proprietary in their approach, and may have even been able to secure better commercial deals from suppliers by adopting this strategy.

1.14 Industry Development

Although many of the Agencies implicitly perform, what could be called 'industry development' activities, none of them possesses explicit 'industry development' goals or strategies. Further, rarely do these types of activities form part of the Agency's Charter, its funding-base, or its evaluation processes. Given the 'incubator' role, and the large multiplier effects they often achieve, we think this situation is a pity. In our view, Agencies such as ACMI, SBS, ScreenSound and the ABC, are well positioned to identify, trial, promote and 'pass on to industry' new product and service ideas that may well have significant commercial potential for their suppliers. Thus, we believe, it would be useful if each Agency was measured according to its impact on overall industry development, and that it be actively funded and rewarded for producing positive outcomes in this area.

2.0 BACKGROUND & TERMS OF REFERENCE

In 2001, a three-stage study was initiated to review digital content within Australia. This 'Creative Industries Cluster Study' was intended to support and encourage the growth and expansion of the creative industries sector within Australia', and to enhance its capacity to engage economically and culturally within the information economy.

The first stage was performed by the DCITA in conjunction with NOIE, and was released in May, 2002.

The second stage involved an analysis at the level of the firm within the context of industry clustering and production and commercial arrangements related to the development of digital content and applications. A key finding of this report was that "Government is a key market organiser and a large, consistent customer of these industries." As a result, this third, and final stage, aims to analyse the key role played by Government Agencies as market participants in the creative digital content industries.

In general, it aims to contribute to the following outcomes:

- Identify the processes through which Government Agencies participate in digital content and applications markets (e.g. tendering, partnerships and so on);
- Identify weaknesses and inefficiencies as well as strengths in these processes; and
- Development of strategies through which Government Agencies can most effectively leverage current and future involvement in these markets to assist in the development of the creative digital content industries.

To achieve these outcomes, we have conducted six case studies examining how Government Agencies have engaged with industry suppliers as a means to stimulate development within the digital content and applications market. The Agencies selected represent a cross section of sectors (i.e. media, education, archives, events) and levels of Government, including Federal, State and Local.

The outcomes of this qualitative study are based upon information obtained through interviews, and personal perspectives among the Agencies and suppliers, and is supplemented by desktop research.

3.0 OUR APPROACH & METHODOLOGY

Our approach, in conducting this consultancy, was qualitative in nature and consisted of interviews, supplemented by desktop research.

To start with, Convergent Consulting put together a summary of information which it determined necessary to obtain in order to fulfil the outcomes of this consultancy.

Next, we conducted interviews with senior personnel from the six (6) Government Agencies nominated by the Department. From these interviews, we derived a background of innovative projects which had been launched through the partnership of the Agency with key suppliers. Based on this information, a final project derived from each Agency's initiatives was selected for further investigation, and the key suppliers related to this project, targeted to be interviewed. This resulted in a single supplier organisation being selected for each case study (except in the case of the Learning Federation where, due to the size and complexity of the project, four separate suppliers were chosen).

Following this, we obtained the names of senior personnel within the supplier organisations and conducted secondary interviews with them to obtain their feedback on working with the particular Government Agency, the Government in general, and their perspectives on how innovation had been fostered.

To summarise, we aimed to learn the following from each case study:

- the initial need of the Government Agency;
- the digital content strategies employed;
- the types of external industry relationships employed;
- the outcomes achieved; and
- the key learnings (e.g. how to improve process, consolidate relationships, identification of strengths and weaknesses).

Table 3, below, provides a summary of meetings held and the associated personnel interviewed.

After the interview process was completed, draft case studies were prepared which centred around the key objectives. A copy of these case studies was then sent to all interviewed personnel to obtain additional feedback, and consensus on the content and veracity of the information.

Table 3: Summary of Meetings

Case Study	Supplier	Meetings Held
ABC/AFC	Blue Rocket	<ul style="list-style-type: none">▪ ABC - Domenic Friguglietti (Manager, Co-production, ABC New Media)▪ AFC - Kim Dalton (MD)▪ Blue Rocket - Dave Guerney (MD)
SBS New Media	Sun Microsystems	<ul style="list-style-type: none">▪ SBS – Will Berryman (Head of SBSNM)▪ SBS – Paul Vincent (Business Development)▪ Sun Microsystems - John Arnold (Director of Technology Sales, Asia-Pacific)
ACMI	PIVoD	<ul style="list-style-type: none">▪ ACMI – John Smithies (CEO)▪ ACMI – Victoria Lynn (Director)▪ Pivod – Phillip Jenkins (CEO)
NSW Local Government	Social Change Online	<ul style="list-style-type: none">▪ Lgov- Roger Jayasundara▪ Social Change Online – Sean Kidney (CEO)
Learning Federation	Acumentum CADRE Design CRANK Media Dytech Solutions	<ul style="list-style-type: none">▪ Learning Federation - Susan Mann (COO)▪ Acumentum - Russell Yardley (CEO)▪ CADRE Design - David Hegarty (CEO)▪ CRANK Media - Danielle Stephens (Director)▪ Dytech Solutions – Jim Kurian (Director)
ScreenSound	Wizard Information Systems	<ul style="list-style-type: none">▪ ScreenSound – Ron Brent (MD)▪ ScreenSound - Michael Tuite (Senior Manager, Ebusiness and IT)▪ Wizard - Tony Robey (CEO)

3.1 Limitations and Caveats of Methodology

This consultancy only examines a limited number of Agencies participating in the Digital Content and Applications Market. Our analysis and conclusions are based upon this limited set of qualitative data that may, or may not, be applicable to other Agencies.

As pointed out in various parts of our report, it would be dangerous to generalise and prescribe specific interventions for any Agency (based on the experience of another) without first considering the full context of its position.

In writing this report, and arriving at its conclusions, Convergent Consulting has extensively relied on the accuracy of the information provided to it by the Agencies and suppliers interviewed. It should be understood that Convergent Consulting has not audited, or sought to verify the accuracy of, this information in any way.

4.0 CASE STUDY: ABC New Media and the Australian Film Commission

4.1 Summary and Recommendations

The traditional media industry plays a close and highly inter-related role with digital content and application markets, although such a relationship is currently of David and Goliath proportions. While the industry models for this relationship are still embryonic and evolving, four early observations are emerging.

- Media companies are successfully leveraging off their brands and off-line content to create popular online properties (e.g. NineMSN, F2 and ABC Online), although, it must be said, finding successful commercial models is still proving somewhat elusive;
- Media production companies are increasingly developing 'linear' properties that consist of a range of elements that may include, for example, a TV series, a magazine, companion websites, club chat-rooms, SMS competitions, CDs, and a range of merchandising products. Under this collaborative model all elements are often designed, produced and sold as a total commercial package;
- The production methods used within traditional broadcasting are, increasingly, gravitating towards digital and computerised technologies. This change has led, and will continue to lead, to improved productivity levels (ie. lower production costs) and the creation of new forms of broadcasting content (e.g. digital animation, interactive TV); and
- To date, stand-alone internet-based content (i.e. content not shown or promoted through other media channels) has rarely proven commercially viable, or experienced widespread cultural impact.

The ABC is a large and significant 'market shaper' in certain key segments of the market where traditional media and digital content overlap. These segments are identified as follows:

1. In narrowband web-based content, the ABC produces one of Australia's most popular and 'content rich' family of websites. ABC Online is configured to service a number of genre-defined gateways that have been established in response to audience interest and are often configured around the program brands and re-purposed content derived from ABC Television and ABC Radio. In addition to these offerings, ABC New Media and Digital Services (NM&DS) produces original content in the following gateways: News and Current Affairs, Public Affairs, Rural Asia Pacific, Sport, Kids, Youth, Science, Arts and Culture, Education, Indigenous, ABC in your Local Area and Health.
2. In broadband content, the ABC has developed a small number of broadband services, offering video and audio streaming. While these broadband sites are largely based and configured around much of around the brands and re-purposed content derived from ABC Television, including a minimum from ABC Radio, NM&DS also produce content to suit the media-rich potential of the broadband medium.
3. The ABC selectively experiments with, and trials, various other platforms in which to deliver their content including interactive TV and SMS.
4. The ABC, through co-production initiatives with funding bodies, such as the AFC and Film Victoria, have commissioned stand-alone content that is hosted on the ABC's narrowband and broadband platforms.
5. The ABC is a large purchaser of children's animation products. This particular genre of programming is increasingly developed using digital/ computerised technology.

Items 1 through 4 above are managed NM & DS, which we focus on in this case study. Spending on items 1 and 2 account for the vast majority of NM & DS's \$11m annual expenditure, while item 3 is a minimal burden on the budget. Item 4, the co-production initiatives, are funded by the Australian Film Commission (AFC), with the ABC contributing 'in-kind' investment consisting of web-hosting, production skills/expertise, promotion and access to production facilities. Outside these relatively small co-production initiatives, it could be said that the vast majority of the NM & DS's participation in the digital content and applications market is an 'in-house' affair.

The joint ABC/AFC co-production initiatives ('Documentary Online' and 'Broadband Development Initiative') have resulted, or will result, in some innovative forms of stand-alone web-based content. These initiatives will provide experience and skills development for a number of emerging digital media creators, scriptwriters, and producers; in particular, those who focus on products designed for young people, such as games, animation, and music.

The great limitation of these initiatives is that they are very much stand-alone works, accessible only through the 'maze' of the Internet, and are unrelated to mainstream media brands and/or content. Under these circumstances, their cultural impact and potential for serious commercial development are relatively slim.

One possible strategy to address this issue is to specifically target and encourage greater integration between traditional media and new media. Such a strategy should not only lead to greater development opportunities for new media creators and innovators, but also lead to the enhancement and enrichment of the audience's experience of traditional media products (e.g. television). The \$20m 'Bell New Media Fund' (Canada) is often pointed to as a leading intervention strategy that has successfully targeted the joint development of TV programs and New Media products for over 5 years. This fund has spawned many export successes including *Angela Anaconda* and *Degrassi Junior High* which are sold internationally as integrated linear properties (i.e. television shows, websites, CDs, etc.)

As the Chairman of this Fund puts it, "There has been a growing awareness that 'the property' is not just a television program or a web site (or a book, or a game, or a toy, or merchandise) but an idea - a story with characters - that cannot be wholly represented in any single medium but requires the technologies of different media to optimise impact. Today, television and new media see each other as trusted and respected partners, each one contributing to an audience's experience in its own unique way; each one adding value to the other's production."

The ABC has proven to be a valuable partner for the AFC, and the digital content creators, in the aforementioned initiatives in Australia. However, should future initiatives gravitate towards cross-media and cross-platform opportunities, as recommended, then it would seem to be in the best interests of the Industry that future initiatives be opened up to other broadcasters and/or consortiums of traditional content producers and new media talent. Such a strategy, if similar to the Canadian experience, would significantly help develop and expand the Australian media industry's thinking about how to innovatively integrate new media content and applications with traditional media approaches. Such innovation should not only stimulate the design and creative processes at play, but, also, promote important cultural and structural changes within most Australian media organisations, including the ABC.

4.2 ABC New Media and Digital Services Core Business Activities and its Operating Context for Digital Content Development

4.21 Overview of ABC New Media and Digital Services (NM & DS)

ABC New Media and Digital Services (NM & DS) was established in 1995 with an aim to explore and develop new media content production and online services, as a separate output Division of the ABC.

Today, NM & DS, through the ABC Online masthead, supports a family of over 270 websites and 900,000 webpages. ABC Online consistently rates in the Top 10 most visited sites in Australia, with at least 11% of Australians going online to visit the site each month. Furthermore, among this Top 10, the ABC is unique in terms of the range and diversity of content offered, as illustrated in Table 4.21.

Table 4.21: Number of pages per genre in ABC Online

Genre*	% of pages
News	54.4
Regional & Rural	17.7
Current Affairs	9.5
Science & Technology	6.1
Children's	4.4
Youth	3.3
Arts & Culture	2.0
Sport	0.7
Education	0.6
Indigenous	0.5
Natural History & Environment	0.4
Music	0.2
Religion & Ethics	0.2

Source: ABC New Media & Digital Services

* Does not include Television Guide, Search, ABC Broadband home page, About ABC Online and About the ABC. Many other accesses are to directory pages.

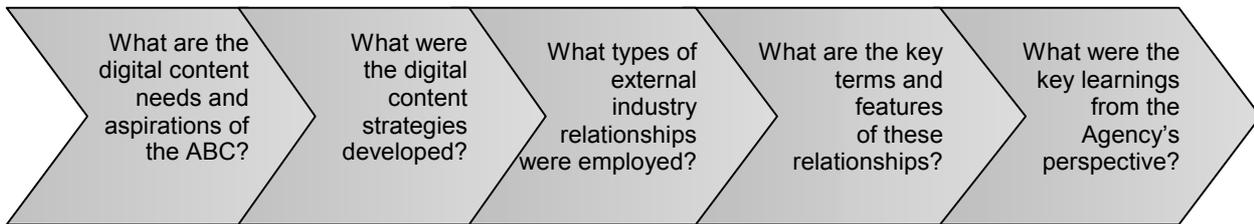
By comparison most of Australia's other Top 10 websites (with the possible exception of NineMSN) limit themselves to more specialised services and content, such as search engines, portals, financial services, classifieds and so on.

NM & DS is funded to the tune of approximately \$11m per annum. This represents approximately 2% of the ABC's annual budget which, according to NM & DS, is consistent with many other public broadcasters around the world.

It should be noted in this case study that we have chosen not to review the 'digital' television channels, *Fly TV* and *ABC Kids*, as they are not managed by NM & DS and are, essentially, traditional television services that are merely converted, and transmitted, in digital format. NM & DS's digital content strategy initiatives are outlined in Figure 4.22

4.22 NM & DS's Scope of Involvement in the Content and Applications Market

Figure 4.22: NM & DS's Digital Content Strategy Initiatives



- To develop new-media 'properties' that complement existing TV and Radio services.
- To attract significant audiences to these new-media properties, while remaining faithful to the ABC Charter.
- To develop new distribution platform options that offer attractive extensions for accessing and interacting with ABC services.
- To facilitate the distribution of original content via new media content platforms.
- Leverage off existing program content and brands to promote and configure online properties.
- Re-purpose content from television and radio (in-house).
- Create and experiment with new distribution platforms such as narrowband, broadband, SMS and 3G.
- Develop co-production initiatives with external funding bodies that will result in digital content for direct use on new media platforms.
- Co-production with the AFC and Film Victoria.
(Note, however, the vast majority of content is sourced and re-purposed 'in-house').
- ABC to donate in-kind contributions (expertise, hosting, etc).
- ABC to possess the exclusive right to promote and host digital content on its new media properties.
- The ABC's content, brand and image is transferable and valued in the online environment.
- Cross media and cross platform business models are still evolving, but it appears important to properly integrate them.
- The co-production initiatives, so far, are just small steps along a path.

The vast majority of NM & DS's budget is spent on the staff resources required to re-purpose ABC Television and ABC Radio content and to produce its own 'in-house' new media content. It is worth noting that, while NM & DS is responsible and accountable for the ABC's new media properties, editorial integrity for Television and Radio sourced content still sits with the original content producers (within Television and Radio). Such an arrangement requires formal service agreements between NM & DS and these other ABC divisions, as well as management attention to the relatively complex editorial and management process issues that sometimes arise.

Since the 2001 FY, NM & DS has selectively upgraded its online capability, by launching broadband services, including the *News*, *Playground* (for children), *Rage*, *Fly*, and *Media Watch*. The *News* service, in particular, has been quite popular, with 170,000 weekly access in June, 2002 (up 500% from the previous year), while the overall broadband platform, itself, has been the recipient of several well-recognised industry awards.

NM & DS has also experimented with trial interactive television services on the Optus and Austar PayTV platforms (both of which have since been withdrawn from trial service), and other potential distribution platforms, including SMS messaging and broadband 3G services.

In sum, NM & DS is mainly focussed on re-purposing and leveraging off the ABC's existing brands and content for both narrowband and broadband platforms. Such a strategy seeks to extend the value of ABC's television and radio content for its audience, by making the content available on whatever platform they choose to access the ABC, and, also, by taking advantage of the additional functionality that a particular distribution platform may offer (e.g. interactivity, video on demand, etc). If popularity and audience interest is a measure of success, this strategy appears to be highly successful in growing and extending the audience relationship with the ABC and assisting the ABC in fulfilling its Charter obligations.

However, it is worth noting that this ABC strategy makes NM & DS somewhat beholden to the programming and content development choices of the core Television and Radio Divisions (which, naturally enough, are driven by their competitive positions and public broadcasting aspirations within the

television and radio markets). In such a context, it can be difficult for NM & DS to fund, innovate, and develop new forms of content specifically purposed for new media distribution platforms (outside the AFC co-production initiatives), and, perhaps more importantly, it serves to constrain the flexibility NM & DS have in shaping and testing new business models, cross-media and cross-platform opportunities. For example:

- currently, the development of new media services, such as websites, usually remains a secondary consideration and afterthought to the core broadcasting business. Such a situation leads to a minimalist approach to the creation of genuine cross platform/media approaches that, ideally, should be considered holistically at the commencement of the creative process;
- Blue Rocket's *Dog and Cat News* broadband service (that has been short-listed to be developed under the Broadband Production Initiative and which will be hosted on the ABC's broadband site), has a companion TV series (currently shown overseas) that would, ideally, be shown on ABC Television as a cross-media platform/product. However, NM & DS is not explicitly empowered to influence ABC Television's programming decisions to support such a development.

We note that the reverse to the above can also be true. For example, an ABC Television show, seeking a complementary website, may not get one due to NM & DS funding constraints and/or priorities NM & DS has in serving its own markets.

4.3 The Australian Film Commission and ABC's Co-Production Initiative

The Australian Film Commission (AFC) is the Federal Government's film development agency committed to the development of projects and people within the film industry, the stimulation of the industry, itself, and the promotion of Australian culture both nationally and internationally. For ten years, the AFC has been involved in the development of interactive media content.

The AFC decided to enter into partnership with the ABC to acquire a platform on which to showcase the results of the AFC's development. This partnership decision of the AFC was based on the fact that 'ABC Online' is Australia's second most popular website, an important provider of educational, children, and youth content, and was seen to be open to cultural development and innovation. It was resolved that completed projects would be licensed exclusively to the ABC for hosting on its website for one year and then, non-exclusively, to the ABC for an additional four years.

The NM & DS and AFC's first co-production was the Documentary Online Initiative launched in December 2000. Its aim was "to encourage the development and production of documentary projects that explore the online environment in innovative ways and challenge conventional documentary forms." With the AFC providing funding of \$420,000 towards development and production, and NM & DS providing hosting, maintenance and technical support, four projects were completed and are currently hosted on the NM & DS website www.abc.net.au/documentaryonline. While this Initiative provided valuable experience to the creative individuals involved, and produced some innovative and exciting content, success (measured in website hits) was modest, at around 9000 page impressions per week.

In August, 2001, the second initiative between NM & DS and the AFC was launched: the \$2.1m Broadband Production Initiative. According to the AFC, this initiative is "intended to provide Australians with a range of locally-produced digital content and to ensure that Australian digital content creators remain at the cutting edge internationally in the highly competitive and rapidly developing broadband applications sector." Furthermore, the initiative was resolved to "bring together four groups that were operating disparately within the broadband area. These include new media practitioners, traditional film and television practitioners, on-line education curriculum content creators and broadband delivery operators."

Key criteria, established to distinguish which projects would be accepted for funding, stipulate that:

- the content be designed for children, youth or educational user groups as these are believed to be the growth areas for an increase in broadband and digital interactive media;
- they exploit the possibilities of the broadband environment on the internet;
- they are to be interactive;
- they possess distinctly Australian cultural content; and,

- they, ideally, will possess cross-platform elements to be used on a multitude of media-delivery platforms such as. hard media (e.g. CD-ROM, DVD), network-based platforms (e.g. interactive television, 3G, cable), or traditional non-interactive platforms (e.g. broadcast television, PayTV, etc).

It was decided that a minimum of six projects would be funded in two stages: the first stage commencing September, 2002, with projects intended to go online by mid-2004 and, the second, one year later. To ensure these works will be substantial, each of these projects will receive development funding to the tune of \$200,000 to \$500,000. From this first round of projects, up to three will be selected for large-scale investment. The projects to receive funding are:

Alive And Dreaming: An entertaining and educational interactive domain where the audience can enter the world of whales and dolphins.

The Dog And Cat News: An interactive website which is the official interactive Broadband hub for Blue Rocket's Animated Television series, *The Dog and Cat News*. It is a broadband, streaming media website for playing interactive games, viewing webisodes and exchanging of information.

Dust On My Shoes – An Odyssey of Rough Travel: This is designed for youth and explores global rough travel through a wide range of media.

Frogsworld: A broadband experience for primary school children paralleling their world.

Mark and Ben: The rollicking tale of two adventure crazed boys growing up in the Australian suburbs.

The Pure Drop: An interactive online program that explores the worlds of traditional folk and world music.

Stickybun: This will be a fun interactive online environment where kids can explore the joys of one of the oldest traditions which exist – the art of story-telling. It is alive, interactive, changing, grows through use and can be shared.

A Stowaway's Guide To The Pacific: A history of the greatest ocean on earth as seen through the eyes of two curious children as they time travel on the Endeavour.

The Life And Times Of The Extraordinary Vice-Admiral William Bligh: An exciting interactive biographical website that will comprehensively cover the story of this important man.

In addition to funding these broadband projects, the AFC and the ABC also agreed to jointly assess and fund early development projects. It was determined that these early development projects would receive funding of up to \$15,000 and matched development funding projects, up to \$50,000. So far, we understand, no development funding has been awarded through this process.

While still yet to be executed, the ABC and the AFC expect the Broadband Development Initiative will result in innovative forms of stand-alone broadband content that will appeal to certain niche audiences.

The great limitation of these aforementioned initiatives is that they are very much stand-alone works, accessible only through the 'maze' of the Internet, and are unrelated to mainstream media brands and/or content of the ABC. Under these circumstances, their cultural impact and potential for serious commercial development are relatively slim.

One possible strategy is to specifically target and encourage greater integration between traditional media and new media. Such a strategy should not only lead to greater development opportunities for new media creators and innovators, but also lead to the enhancement and enrichment of the audience experience of traditional media products (e.g. television). The 'Bell New Media Fund' (Canada) is often pointed to as a leading intervention strategy that has successfully targeted the joint development of TV programs and New Media products for over five years.

4.31 The Bell Broadcast and New Media Fund

'The Bell Broadcast and New Media Fund' arose from an initiative of Bell Canada who, in 1997, made a commitment to invest in the production of innovative new media content associated with television programming. The project has served to seed the development of the Canadian new media industry. As a result, Canada has emerged as one of the world's leading creators and developers of interactive content that enhances and extends television programming. Key successes include *DeGrassi Junior High* and *Angela Anaconda*.

In the last five years, more than \$20m has been invested in the Canadian television and new media industries. In the period from 1997-2002, 179 projects received financial support for the new media component of production.

As a further mark of its success, the Bell fund has received international recognition as a 'funding model' and its multimedia content has been licensed to an estimated 30 to 40 broadcasters worldwide.

To quote the current Chair, Paul Hoffert, from the Annual Report: "There has been a growing awareness that 'the property' is not just a television program or a web site (or a book, or a game, or a toy, or merchandise) but an idea - a story with characters - that cannot be wholly represented in any single medium but requires the technologies of different media to optimise impact. Today, television and new media see each other as trusted and respected partners, each one contributing to an audience's experience in its own unique way; each one adding value to the other's production."

It is (enviously) noted by the AFC and NM & DS that funding of this magnitude is not available in Australia, either from Government, or from our equivalent of Bell (i.e. Telstra). Note, it is understood that Telstra's broadband fund, mainly focuses on 'applications' as opposed to content development and plays almost no role in integrating traditional media with new media.

4.32 Blue Rocket and the Broadband Production Initiative

Blue Rocket is a developer and producer of 3D animated cartoons for film, television, interactive television and broadband. All of Blue Rocket's content, whether destined for television, broadband or a narrowband website, is produced digitally on computers. In its short three year history, Blue Rocket has probably best been known as the creator and producer of Australia's first fully 3D animated television series, *HOOTA & SNOZ*. This short form cartoon is shown internationally in 94 countries and, in Australia, is aired on ABC Digital and Nickelodeon.

Dave Guerney, Blue Rocket's founding Director, notes that the association with the ABC is a great fillip for selling his product overseas. "The ABC is very well regarded and seen as a blue chip by international broadcasters."

A second television series, *The 'Dog and Cat News*, has been successfully sold into the German market, and the corresponding broadband website recently been nominated to receive funding from the ABC/AFC Broadband Development Initiative, even though the television series is not currently shown in Australia. In our view, such a situation is indicative of the need to more rigorously promote the integration of new media and traditional media within Australia (as we recommend elsewhere in this report).

In an overall sense, Guerney, feels that Australian children's television (which is a large component of the digital animation market) has been well supported, particularly by the ABC and the Australian Children's Television Association (ACTA). However, he notes that, internationally, linear properties (i.e. TV series, websites etc.) are now almost expected in any sales process and that Australia lags behind in encouraging this sort of development.

He also believes that Australia's deficit in broadband and interactive television penetration is cause for concern, as it makes content development opportunities here more scarce.

Guerney believes Blue Rocket's success is due not only to the innovativeness of its products, which are designed to appeal to a wide range of international markets, but, also, to their tight project and production management techniques. According to Guerney, budget blow-outs are common in this labour-intensive industry, even when animations are computer-generated.

Another key success factor for this type of business is the ability to generate finance. During their start-up phase, Blue Rocket received valuable support from the Queensland and Tasmanian State Governments and, to date, Blue Rocket has been able to successfully raise 50% of their pre-production financing overseas.

Guerney points out that the Animation market world-wide is US\$50bn, growing at 33% per annum. He believes, as a result of a low dollar, good English skills and awareness of cultural sensitivities, Australia is well placed to be a 'fee for service' production country. However, due to the lack of project financing, and an R&D culture within the Australian media industry, very few companies are positioned to move up the risk-reward curve to commission and market their own programs.

In this regard, Blue Rocket, who specialises in short-form animation (meaning that their cartoon and animations last only a few minutes) would like to make the leap to medium-form animation, but lack the project finances to do so. Whereas, short-form series typically cost around \$400,000 to \$700,000 to produce, medium-form series (26 episodes x 5 minutes) cost between \$2m to \$4m. Guerney believes that this type of investment, for a company of his size, is extremely difficult, as it is beyond the scope of the State Government Film Bodies' funding capacities, falls outside the guidelines of the 10BA tax rules, and has almost no hope of achieving the required pre-sales within Australia.

5.0 CASE STUDY: The Australian Centre for the Moving Image (ACMI)

5.1 Summary and Recommendations

The Australian Centre for the Moving Image (ACMI) possesses a distinctive vision for the role it wishes to play in its promotion of the moving image in Australian society. In short, ACMI aims to be:

- a leading innovator in the use of the moving image as a 'language' in society;
- an incubator for ideas that have the potential of large 'multiplier effects' in promoting the moving image; and
- a leading exploiter of digital, broadband and interactive technologies that enable cost-effective and innovative use of the moving image for cultural, community, and business use.

ACMI's engagement with digital content and applications technologies seeks to be at the 'cutting edge' as it endeavours to push the boundaries in the use of the moving image. Although ACMI has a sizeable investment in traditional technologies (e.g. cinema projection equipment), to maintain ties with the moving image past, they are almost invariably testing new ideas and concepts that are underpinned by digital and interactive technologies.

ACMI has engaged the digital content and applications industry sector in a number of ways.

Firstly, it has used a number of specialist technology applications companies to help design, build and operate the purpose-built technology infrastructure required to support the day-to-day operations of the new Federation Square facility. Examples include PIVoD and iCorp which have developed the \$2.5m media server centre and the \$2m video production infrastructure, respectively.

Secondly, ACMI itself has conceived new concepts for the use of moving images, and has worked with applications technology providers to jointly develop and trial these concepts, producing outputs such as the Screen Lounges which ACMI believes may have commercial potential.

Finally, ACMI has commissioned ten to fifteen digital content creators to develop a wide variety of 'artistic' works. Spending in this area is estimated to be approximately \$500,000 per annum.

Aside from these direct commercial engagements with industry, ACMI also plays a strong industry development role as both a teaching resource and research facility.

In general, ACMI does not believe in owning Intellectual Property Rights (IPR) developed as a result of its partnerships and, in fact, view its partners' successful exploitation of IPR as a key measure of its own success. In situations in which they can clearly exploit the IPR for return to research or acquisition funds, then they will take the IP ownership path, but these situations are few and far between. As ACMI CEO, John Smithies, says, they would rather have "life breathed into the IPR instead of stalling on ownership." We believe this to be a sound strategy.

ACMI's strengths as an innovation partner also lay in its knowledge, passion and 'strength of vision' in exploring new ways of engaging with the moving image. ACMI's thinking often extends beyond the day-to-day commercial applications being promoted by most vendors. As such, ACMI demands that its partners be forward thinkers, patient and persistent innovators, and be prepared to invest heavily in exploring new ideas in a collaborative manner. Further, ACMI is a strong believer in conducting highly competitive tendering processes designed to 'flush out' the best possible technologies, designs, and concepts available in the market.

There is no doubt that this partnering strategy, by a demanding and knowledgeable customer, is taxing on the sales, design and production processes of ACMI's partners. However, at least a few partners, such as PIVoD, have benefited strongly from the IPR developed, and have gone on to produce world leading products with significant commercial potential.

Although ACMI implicitly performs what could be called 'industry development' activities, it does not possess any explicit 'industry development' goals or strategies. Further, these type of activities do not form part of ACMI's Charter, its funding-base, or evaluation process. Given ACMI's active 'incubator' role and the fact that it looks for opportunities containing large multiplier effects, we think this situation is a pity. In our view, ACMI is well-positioned to identify, trial, promote and 'pass-on to industry' new product and

service ideas that may well have significant commercial potential for its partners. Thus, we believe, it would be useful if ACMI measured the impact it is having on industry development and that it be actively funded and rewarded for producing positive outcomes in this area.

While PIVoD has been positive about their experience with ACMI, they are not as positive about their experience with Government Agencies, in general. In particular, PIVoD claim many government tendering processes are overly empirical and mechanistic in their evaluation of tender bids. This results in the failure to adequately take into account factors which often prove invaluable to the particular project. For example, key qualitative factors of the potential contractor, such as specific industry and technology expertise, and the ability to be a flexible and innovative collaboration partner, are often overlooked, or not given sufficient weighting.

Furthermore, PIVoD believes the economic benefits that can result when a local company achieves the development of IPR, thereby increasing the competitive edge of the company, could be weighted in the tendering process. For example, PIVoD won the Media platform against stringent competition presented by Fujitsu, Silicon Graphics, and HP. Due to PIVoD's size, the project was significant to them. Since winning the project, PIVoD is in possession of valuable IPR, and staff numbers have more than doubled, from 20 to 45, as a flow-on effect. Had one of the larger multi-national company won the contract, these benefits would not have been realised by PIVoD.

5.2 ACMI's Core Business Activities and its Operating Context for Digital Content Development

5.21 Overview of ACMI

ACMI is responsible for the promotion of the moving image, and has a charter to develop collections, exhibitions, events and educational resources within a national and global environment. While the focus of ACMI's activities is within its new facilities at Federation Square in Melbourne, the Centre also possesses a lending collection, has an online presence and is an international contributor to the research and development of screen works. ACMI's facilities marry leading edge digital technology with the screen, providing its visitors, both in person and online, access to the creation and viewing of the moving image.

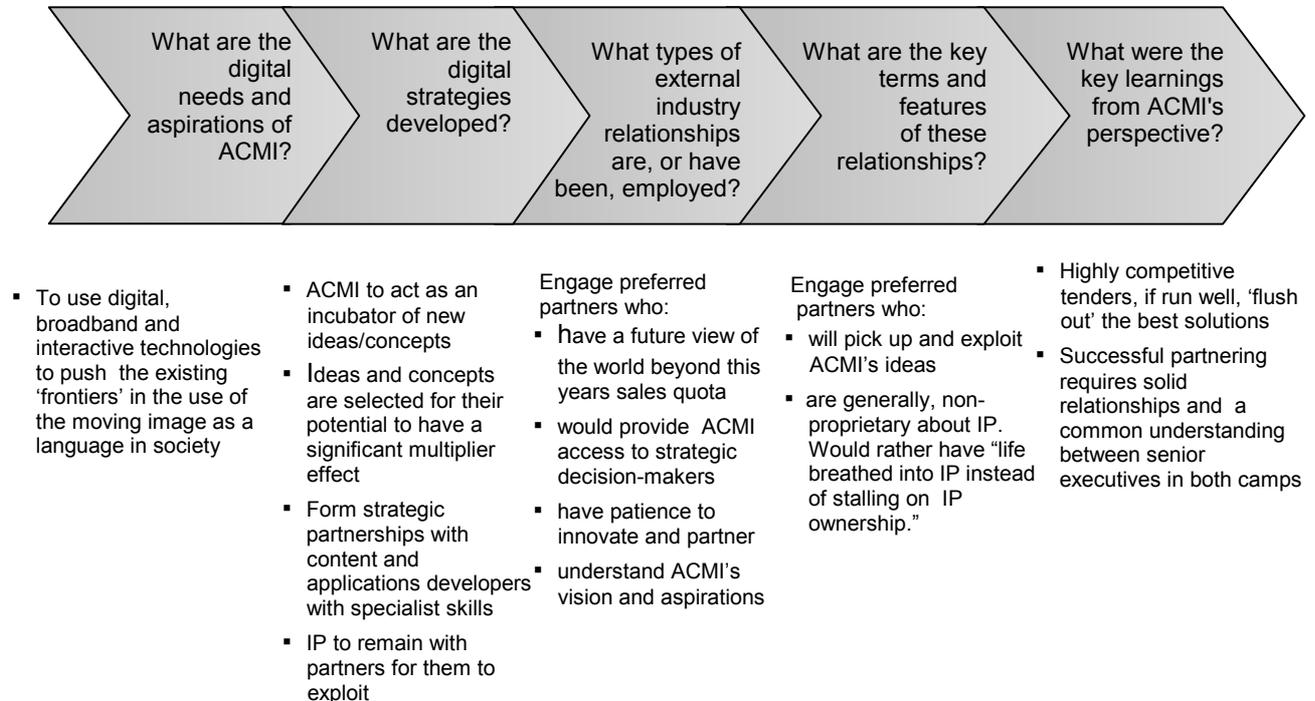
According to industry veteran, and ACMI CEO, John Smithies, ACMI's strategic vision is to vigorously pursue the moving image as a 'language' of communication, that should, legitimately, sit alongside more formal uses of language, such as the written word. Such an ambition requires ACMI to collect, explore, educate and promote the moving image language in all its forms.

Smithies sees the rapid development of digital, broadband, and interactive technologies as significant breakthroughs in enabling ACMI to cost-effectively transport the moving image from its traditional environment of analog film and television production, towards more wide-spread, and everyday, cultural, community and business uses. As a result, the majority of ACMI's work is conducted using digital and non-conventional forms of media and is very much at the 'developmental edge' of media, both conceptually and technically.

In fact, Smithies views ACMI's role as being very much that of an incubator and innovator of ideas that have the potential for large multiplier effects. To this end, ACMI spends considerable time and creative resources in developing new ways of utilising the moving image as a communications language in society. Once ACMI has successfully created and proven these new concepts, it considers a key signal of its success to be reflected in the success of its partners, and/or the community in general, who go on to commercially or culturally exploit the concepts within the mainstream of wider community use.

5.22 ACMI's Scope of Involvement in the Content and Applications Market

Figure 5.22: ACMI's Digital Content Strategy Initiatives



ACMI participates in the content and applications market in a number of ways.

5.23 Innovative Public Presentation and Exhibition Facilities

ACMI's Federation Square complex provides a highly engaging, multi-sensory, experience that is considered to be a leading facility of its type in the world. The complex is designed to be a continuous research platform, with the ability to engage general audiences and special interest groups through a range of exhibitions, screenings, education, production, events and other activities. Permanent facilities for the public include:

- two multi-format cinemas;
- the world's largest screen gallery;
- hands-on interactive public activities, including production zones, screen lounges/booths and digital story-telling facilities; and
- an Information Display System continuously delivering content to 45 screens around the centre.

Importantly, these facilities are underpinned and supported by a number of innovative concepts and technologies that ACMI have developed in partnership with Australian digital content and applications companies, including PIVoD (covered by this case study). For example, all of the Centre's displays and interactive facilities are centrally served, monitored, and controlled by PIVoD's video-streaming technology and a single broadband network.

5.24 Incubating and Commissioning New Works

ACMI possesses a small commissioning development team. Typically, this team conceptualises, plans, and budgets for new ideas that are predominantly digital and interactive in nature. Once the idea is conceptualised, ACMI usually commissions an external individual or company to produce the work in exchange for the non-exclusive right to exhibit the work or, in some cases, the exclusive right to exhibit the work for 1 to 2 years.

ACMI also possesses an in-house media design studio (consisting of around 4 employees) who produce much of ACMI's corporate media (e.g. websites, movie trailers, display information) and contribute to the creative displays and exhibits produced by external parties.

5.3 ACMI and PIVoD's Co-Production Initiative

In August, 2002, PIVoD Technologies won the contract to set up ACMI's Media Server Centre in Melbourne. It was a great win for PIVoD who managed to successfully compete against large, multinational firms and a testament to ACMI, who decided to engage a specialist, local company with whom they could build a collaborative relationship. According to Smithies, ACMI "looked around, over many years, to find a company who could provide the kind of sophisticated infrastructure" that they required.

A key aspect that attracted ACMI to PIVoD was the access to responsive senior executives (i.e. Philip Jenkins, CEO) who could make the strategic business decisions necessary to deliver the complex turnkey solution required. This contrasted with a few multi-national firms, who tended to provide access to sales executives pushing specific generic lines of product that could not meet many of ACMI's needs. ACMI were also impressed with PIVoD's previous work in providing video-streaming and management solutions to the Melbourne Museum and the Australian National Maritime Museum.

After a lengthy tendering and negotiation process Pivod entered into a \$2.5m contract with ACMI, to design, build and maintain ACMI's Media Server Centre. With the contract signed in late 2002, the project is currently still being built and commissioned.

5.31 Overview of PIVoD Technologies

PIVoD Technologies claims to have positioned itself as one of the world leaders in the application and use of Video-on-Demand technology and its integration with control and management systems. Market applications for this technology include management solutions for entertainment complexes such as museums, as well as entertainment and communications systems for residential and corporate requirements which include the Victorian Arts Centre and a science park in Amsterdam.

This technology is the core of PIVoD's current business and planned growth. PIVoD's reported financial results are impressive, reporting an annual turnover of around \$6m, an annual growth rate of 200% to 300%, and an ability to self-fund this growth. PIVoD currently possesses a team of around 45 staff (mainly computer engineers and technicians) and is headquartered in Perth.

PIVoD is in direct competition with the major technology companies in the world, such as Fujitsu, and will often compete against these large multi-national firms in many of its projects. Phillip Jenkins, PIVoD's Managing Director, believes that its success is tied to its focussed commitment to the Video-on-Demand market segment and the skills-base they have developed in order to address, and adapt to, the demands of leading edge technology solutions.

PIVoD's past project and clients include:

- The Australian National Maritime Museum;
- The Victorian Arts Centre;
- The Melbournian Penthouse ;
- Museum Victoria;

- The Melbourne Exhibition and Convention Centre;

- Scienceworks;
- Central Park;
- The King Abdul Aziz Historical Centre;
- The Singapore Discovery Centre;
- The BattleBox; and
- The Peninsula Bangkok.

5.32 How the Relationship Between the ACMI and PIVoD has Fostered Innovation

Both PIVoD and ACMI believe their Media Server Centre to be an extremely complex and accomplished feat of engineering. Prior to developing the centre, ACMI possessed a very firm and focussed vision of what they hoped to achieve from the centre and were relentless in working towards this vision. As a result, PIVoD believe that they were 'put through the hoops' to win the contract and had to demonstrate, on numerous occasions, their ability to succeed with this project.

PIVoD also claim that they exhausted considerable resources on this project in order to ensure its success. In essence, PIVoD sacrificed profit in order to build up its own internal IPR and to ensure that it could leverage off this high profile project to other opportunities. Indeed, PIVoD believe that they now have a world-class, state-of-the-art product with widespread appeal and are confident in making sales to further public institutions, both in Australia and internationally.

Whereas PIVoD's experience with ACMI has, generally, been a positive one, resulting in a considerable boost to their levels of growth and innovation, their experience with Australian Government institutions has not always been so.

PIVoD believe that they have occasionally missed out on work because the Government tendering processes have been overly empirical in their evaluation of tender bids. It has been PIVoD's experience that some Government procurement processes default back to arbitrary and inappropriate evaluation criteria (such as size of previous projects, financial capacity of vendor, etc) that exist only because they can be objectively (empirically) measured.

This is a particular problem for PIVoD as it often competes, as they like to say, for 'virgin ground' projects where innovation, creativity, and significant client collaboration are key factors in achieving sought-after outcomes. It is PIVoD's belief that the end result is often the selection of sub-optimal suppliers/partners (often supposed 'safe-bet' multi-nationals) who measure up highly, according to these measurable criteria, but are lacking in their ability to capture the value provided by the possession of specific industry and technology expertise, and in their capacity to be a flexible and innovative collaboration partner. The result is a 'lose-lose' situation for the Government Agency, who is faced with sub-optimal project outcomes, and for the capable supplier, such as PIVoD.

PIVoD also cite the over-zealous use of performance bonds as being detrimental to SME companies. As an example, they mentioned that a WA transport agency was required to commit a \$1m bond to complete a \$10m project. In PIVoD's view this was disproportional to the profit and cash-flow available from such a project and, as a result, precluded many SMEs from bidding. PIVoD also notes that, had such a project been overseas, contenders would have been entitled to support from the EFIC (Export Finance Insurance Corporation), but were entitled to no such support in their own country.

6.0 CASE STUDY: The Learning Federation Initiative

6.1 Summary and Recommendations

The Learning Federation (TLF) distinguishes itself, amongst other Agencies covered in these six case studies, by the dominant and pervasive role it plays within the educational segment of the digital content market. Specifically, TLF will be responsible for the vast majority of the online curriculum content delivered into Australian and New Zealand schools until, at least, 2006. Overall, TLF plays the following roles in the industry:

- **Regulator** – In the production of its learning content, TLF proudly sets and adheres to some of the most rigorous standards and developmental procedures in the world;
- **Content Funder** – TLF centrally manages and co-ordinates development funding on behalf of the Educational Authorities (EAs);
- **Content Production Manager** – For each content development project, TLF puts together a production team, consisting of content experts, curriculum experts, user groups, as well as a ‘producer’. All these parties, along with the multimedia developers, work to develop content in a collaborative effort;
- **Creative Talent Hirer** – TLF specify, tender and select the multimedia development component of the production project; and
- **Content Owner** – The Education Authorities collectively own the copyright to all of the content developed, while TLF provides the central repository and distribution function. Note, presently, TLF (i.e. the JV partners forming TLF) are recommending to the Ministers that it centrally manages and owns the copyright on behalf of EAs.

This pervasive role TLF plays is clearly complex and ambitious, especially when one considers the range of stakeholders involved in its initiative, and its challenging objective of introducing online learning into so many Australian and NZ schools from, what is virtually, a standing start. This whole process is not only about the production of curriculum content (the primary endeavour of TLF), but also depends upon other vital building blocks being co-ordinated and firmly established, including:

- teacher development and training;
- the delivery and co-ordination of access infrastructure (e.g. bandwidth and PCs in schools); and
- the investment in ‘learning management systems’ (the software that enables teachers to turn ‘curriculum content’ into ‘lessons’).

Indeed, because of the reliance on, and time to establish, these building blocks (which are primarily the responsibility of the individual EAs), once TLF’s national interactive curriculum content repository is established, it may still take many years before it can be fully deployed, and actively utilised, on a wide-spread basis across all manner of Australian and NZ schools.

With regard to ‘industry development’, TLF’s view is that cultivating the demand-side of the market should be its first and foremost priority. In this respect, TLF appears to have performed its Regulatory and Content Production Manager roles well. As one Educational Authority representative put it, “Surprisingly, TLF’s greatest contribution has not been in actual content production, but has been in defining what quality online learning for students is all about, and in setting the important standards and developmental procedures that go with it.” This representative also added, “we would never have considered these crucial issues acting in isolation.”

Indeed, a great deal (approximately two-thirds) of TLF’s spending and resources goes into the development of standards and specifications, the development of infrastructure for content repositories, and in activities associated with developing the content – such as quality assurance (QA), post-production work, project management, liaising with educational writers and reviewers, and consultation with Australian and NZ stakeholders.

In regard to the development of the supply-side of the market, TLF have distributed multimedia development work across a broad range of suppliers in a number of States, both to minimise its exposure to any one developer and to minimise the political risk of disenfranchising the EAs. On this latter issue, most of the ‘political risk’ issues with EAs tend to be in regard to ‘who’ should be performing the

curriculum expert, content expert, and user acceptance roles, for each content development project. To understand this, it needs to be noted that a reasonable component of TLF's \$68m total project budget finds its way back to the EAs who perform these roles, further influenced by the eagerness and professional pride for a specific EA's staff to be 'the chosen ones' for developing a particular curriculum area. As a result of these issues, TLF expects to spread its spending across an estimated 20 to 25 individual suppliers, who are distributed throughout Australia and NZ.

Naturally, with TLF's emphasis on managing and facilitating the demand-side needs and stakeholder politics, the view of TLF's suppliers about such strategies and processes is mixed. On the positive side, those interviewed believe that TLF's uncompromising stance on open technical standards, educational integrity, useability, accessibility, and QA means that the content produced will be 'world class' and universally adaptable to the needs of students and teachers. Further, each believes that their exposure to producing multimedia educational product, in accordance with such stringent standards and practices, has been a very valuable learning experience which can be, and has been, used to win non-TLF development work, both domestically and overseas.

On the negative side, most suppliers believe that the distribution of 'modest sized' development contracts across a wide range of suppliers does not allow them to gain the necessary economies of scale (TLF estimate approximately \$22m will be spent across approximately 20 to 25 suppliers). As one, supplier put it, "Spreading the funding over too many projects and suppliers means that no clear leaders will emerge, nor excellence in any one product and so, ultimately, the money spent will be ineffective in making a strong impact on the global educational software industry." An interesting point to note is that, according to TLF, the more mature UK market, with three to five times Australia's budget, currently supports only nine competent educational specialists with decent scale economies. If this is the case, then the implications are that Australia must look at significantly consolidating down the number of suppliers from the current numbers, if it aspires to become globally competitive.

This issue of Australian suppliers not gaining the necessary economies of scale is further exacerbated by the fact that their services are engaged by TLF on, what is substantially, a micro-managed daily-rate 'fee-for-service' basis. This procurement model, by its nature, tends not to reward suppliers for the quality of their output, or their productivity improvements. As one experienced supplier, who had ascended a steep learning curve, put it, "there is no opportunity for high margin work in TLF, which operates according to a 'high touch' model that is very transparent with regard to our activities and costs."

Most interviewed suppliers also believe that the amount of documentation and management time required to support TLF's development framework and QA processes is overbearing and costly. To TLF's credit, they have made significant and welcome improvements to their documentation load and management processes imposed on suppliers. However, supplier concerns still remain and, given the asymmetry of market-power in these relationships, one cannot be confident that the 'free hand of the market' will help find the appropriate equilibrium point in this tension.

Expanding this issue further, one multimedia supplier was concerned that in the several years that TLF spends developing a product, it will be prone to being outmoded by the time it is deployed. He, instead, recommends a rapid application development process concept in which key institutions/ interactive and instructional designers work closely together to test a new concept or product, on which they provide timely and useful feedback which is incorporated into the concept or product before wide-spread marketing and deployment. Although TLF currently runs extensive QA tests with select groups of teachers and students on its produced content, we feel this supplier has made a valid point about the length of time it will take to deploy this content into classrooms and the risks involved with such a delay. However, we disagree with the supplier in that we believe the issue is much less about the time it is taking to develop the curriculum content and much more about the time it will take to get the aforementioned building blocks into place. By the time these building blocks are in place, the age of the content currently being produced could be several years old, and essentially untested on a wide-scale deployment basis.

Nearly all suppliers interviewed mention that collective EA ownership of the Intellectual Property Rights (IPR) is limiting their ability to maximise export opportunities. They also believe that simple changes to this regime (that would still protect the Crown's and Educational Authorities unfettered usage in Australia) would be beneficial to their growth prospects and innovation potential.

In concluding, it must be said that to make prescriptive recommendations, based on our cursory analysis, (which did not cover the EAs particular needs and aspirations) is both problematic and risky. In our opinion, the main outstanding question appears to be:

“Are the strategies and processes employed by TLF delivering the optimal outcomes for both Education and Industry Development?”

In this regard, we believe there are some key points that can be made about the present situation:

- It is highly desirable that a ‘national approach’ to developing curriculum content be maintained, both pre and post-2006. To do otherwise, from an industry development point of view, would see a further undesirable fragmentation of the supplier market (as each of the EAs goes off and ‘does its own thing’) and, from an Educational outcomes point of view, would likely lead to content development duplication and poorer quality outcomes, especially for less well-resourced EAs;
- Having said that, the current ‘national approach’ is capable of providing the ‘worst of both worlds’. In ‘one world’ it essentially still acts as a fragmented buyer-base working to appease the needs of the individual EAs to be involved in their ‘fair share’ of projects and therefore fragmenting the number of projects and suppliers.

In the other world, it acts as a single omnipresent buyer, with its long and highly standardised development cycles that run the risk of not properly integrating with the deployment needs of the individual EAs, and/or being outdated by technology and other market developments by the time they are deployed. Under such circumstances, both buyers (i.e. Educational Authorities) and suppliers will always be somewhat suspicious, and prone to ‘playing politics’ over striving to attain the most efficient and effective outcomes. Hence, a better balance must be found that stimulates greater levels of innovation and brings into play ‘healthy’ market tensions, between buyers, suppliers, users and regulators - thereby improving both market efficiency and transparency.

6.2 The Learning Federation and its impact on various components of the Digital Content and Applications Markets

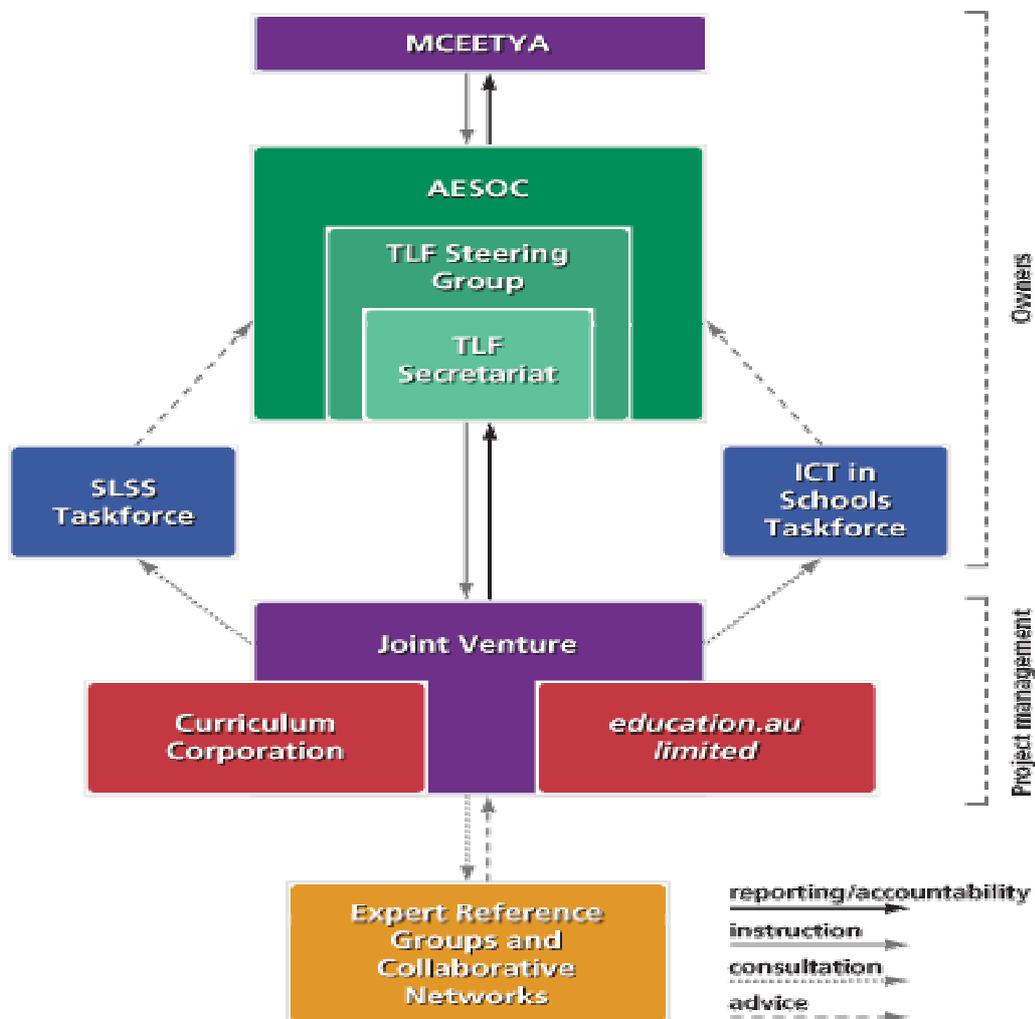
6.21 Overview of the Learning Federation

The Learning Federation (TLF) is a five year development initiative of the State and Commonwealth Governments of Australia, and the Government of New Zealand, to develop and provide online educational content for Australian and New Zealand schools in the period from 2001 to 2006.

In January, 2001, TLF secured a grant of \$68.2m to be provided over a five year period: \$34.1m from the 'Commonwealth Backing Australia's Ability' program and \$34.1m from the State and Territory Governments. A joint venture was established between two ministerial companies, Curriculum Corporation; and 'education.au limited', to take up the major development and project management activities, and to provide a framework of guidelines and specifications.

The reporting and management structure shown in Figure 6.21 was established to develop and manage the progress of the initiative. It is significant in that it portrays a complex governance structure and the elaborate channels of communication required to manage the initiative.

Figure 6.21: The Learning Federation¹



¹ MCEETYA: Ministerial Council on Education, Employment Training and Youth Affairs
AESOC: Australian Education Systems Officials Committee

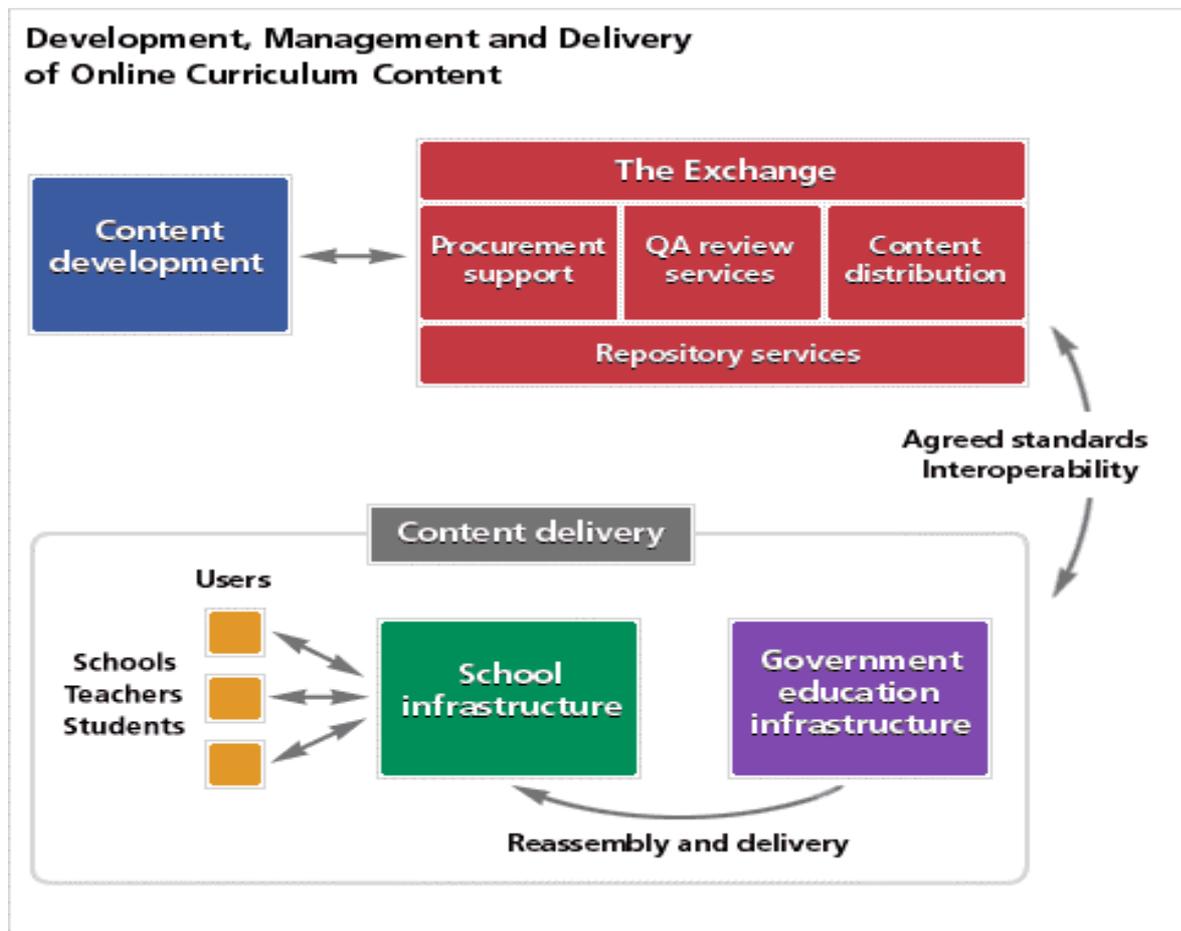
6.22 Overview of the Project Architecture

At its conception, it was envisioned that the TLF project would serve to stimulate the market place, and establish a sound market framework, such that the new and emerging digital content industry would have the potential, and capacity, to provide product material beyond the life of the initiative.

The project consists of both the Exchange and Content Development. The Exchange is the infrastructure component responsible for storing and distributing the online content to the education systems. It is composed of modular, scalable architecture, comprising a 'core server' and front-end desktop applications.

The online content system is being developed in a modular and incremental fashion to allow for customisation and selective distribution of individual 'modules' as required by the teacher and/or educational institution. Once the content is accepted, it is broken down into stand-alone 'learning objects' which are assigned intellectual property rights and stored in a centralised repository. The State Government Educational Authorities are then responsible for reassembling and repurposing content to meet the specific needs of individual classrooms/schools/systems.

Figure 6.22: TLF's Development, Management and Delivery Process



Source: The Learning Federation

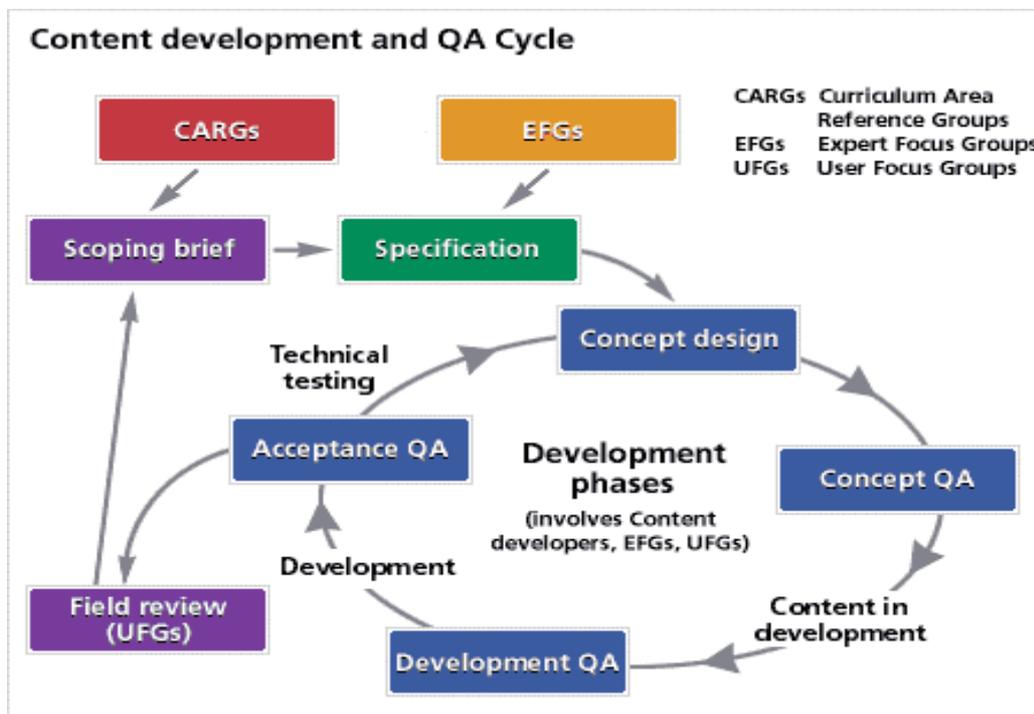
6.23 Content Development and Quality Assurance Framework

A distinguishing feature of TLF is that there is a Content Development and Quality Assurance Framework which oversees the entire chain of content development activities. This framework consists of reference groups, guidelines, and standards to ensure that all products and deliverables, commissioned for the Initiative, are consistent in the quality design, development and delivery of online content. Consideration is given to areas such as content re-use and IPR's to ensure international compatibility and future useability of products.

The framework employs a 'user-centred' methodology in which the needs and priorities of all stakeholders are identified, and the employment of iterative design and development allows for feedback from end-users at all stages of development.

As can be seen in Figure 6.23, the multimedia content developer, must deal and liaise with many TLF appointed groups/stakeholders during the development process, as well as adhere to strict technical, procedural and QA standards. In essence, the TLF content development process tends to be a 'moving feast', as content specialists, curriculum specialists, user groups, and the multimedia developers work collaboratively towards an output shaped by their collective requirements and aspirations.

Figure 6.23: TLF's Content Development and QA Cycle



Source: The Learning Federation

An instrumental player in this collaboration process is the TLF 'producer', who provides the project leadership and management. According to a number of multimedia developers, this person is a key figure in the process and plays a significant role in keeping all players accountable for the efficiency and effectiveness of the collaboration process.

Given the development of TLF content is a collaborative process, a key issue is determining who the rights (IPR) belong to. Industry body, the 'Australian Interactive Multimedia Industry Association' (AIMIA), has identified licensing as a key issue for engaging developers. Their preferred position is that developers should have the right to use some of the intellectual property developed from their involvement in the Initiative to stimulate further innovation in other markets beyond that of TLF. However, at present, IPR ownership for developed content is retained by the Crown. (Note, this issue is discussed further in the supplier interviews.)

6.3 The Learning Federation and its Suppliers

TLF have distributed multimedia development work across a broad range of suppliers in a number of States to minimise its exposure to any one developer, to encourage diversity in learning design and technological innovation, and to minimise the political risk of disenfranchising any States or Territories.

It is estimated that approximately 25 to 30 projects will be outsourced to suppliers. Assuming each tender results in the allocation of contracts to more than one supplier, there will be an estimated 60 contract opportunities for suppliers, at around \$200 000 to \$400,000 per contract, throughout the life of the Initiative.

In the initial stages of the project, many suppliers were selected to work on the content development of various modules, or key aspects of modules, of the project. As can be seen in Table 6.3, these suppliers were indeed derived from a number of States. Tenderers were selected on the basis of "their capacity to meet key objectives of the project," including:

- Value for money over the operational life of the system;
- Methodology and approach;
- Acceptable risk; and
- Previous experience of the tenderer.

Table 6.3: TLF Suppliers

Content Development Area	Selected Developers	State	Ownership
Science 1	Qantm Crank Media Acumen Multimedia Pty Ltd Learning Curve Pty Ltd.	QLD TAS VIC ACT	Public Private Private Private
Math & Numeracy 1	CWA New Media CADRE Design Nine Lanterns Pty Ltd Murdoch University	NZ NSW VIC	Public University/Private Private University
Literacy for Students at Risk 1	Deakin University Qantm	VIC QLD	University Public
Studies of Australia 1	National Museum of Australia Roar Film P/L (Roar Education Multimedia)	ACT TAS	Public Private
Innovation Enterprise and Creativity 1	CWA New Media	NZ	Public
Science 2	Crank Media The CLT Consortium CSIRO Publishing	TAS WA VIC	Private Public Public
LOTE1a	CADRE Design	NSW	Private
LOTE1b	Qantm Global Vision Productions	QLD VIC	Private
The Exchange	Dytech Solutions	TAS	Private
BELTs	Jacus Softwareworks	VIC	Private

According to TLF (based on their own research), some developers have expressed concern that:

- the relatively small size of the contracts (\$200,000 to \$400,000) does not warrant the research and development required to meet project requirements (e.g. \$200,000 is allocated to Science with 4 developers, Mathematics with 3, and Literacy with 2);
- small contracts do not allow for the capacity to develop strong relationships between consortium members and to develop an internationally competitive enterprise;
- responses to each tender draw on resources that are not sustainable throughout the life of the Initiative; and
- larger tenders will result in developers having a more reasonable amount of innovative product that they can on-sell into the international market.

However, TLF currently considers it risky to commit significant resources to one developer team that, ultimately, may not achieve the intended objectives of innovation and the creation of a high quality product. Additionally, they are wary of stirring up political discontent by awarding a large contract to a single company located in one state. Depending on project outcomes, this may or may not change as the Initiative progresses.

It is possible that TLF will, eventually, establish highly effective working relationships with a small group of expert suppliers who will have acquired the ability to deliver on the content requirements with minimum intervention, and who can be selected through a process where they do not need to 're-credential' themselves each time they tender.

The TLF further states that it is investigating the establishment of a panel of suppliers with specialist skills in educational/curriculum design and development which multimedia developers could access to form consortia.

Out of 145 responses to the content development proposals, 19 were eventually selected. Of these successful respondents, four have been selected for analysis in our case study: Acumentum, Crank Media, CADRE Design, and Dytech Solutions.

6.4 Supplier Analysis and Feedback

6.41 Acumentum

Acumentum (formerly Acumen Multimedia) is a Melbourne-based multi-media company which specialises in the development of innovative and cutting-edge internet-based solutions. They initially gained their start in technology by importing PC-based laser disk technology, in 1984, as a means to produce interactive training courses. From there, they migrated to the development of CD and internet-based solutions, including online learning modules. The key to their success has been in their "tailored methodology" which has been continuously improved over the years and has evolved with their customers as new needs have developed.

A medium -sized company with a workforce of approximately 50 people (of which one-third are programmers), Acumentum has a turnover of about \$5m per annum, of which about 11% is reinvested in training and development.

One of Acumentum's main priorities is the development and exploitation of Intellectual Property Rights (IPR), and they are looking at increasing their already growing international market, particularly in the U.K and the U.S.A. Yardley, CEO and a 30 year veteran of the IT industry, is of the opinion that, in order to remain competitive in a market dominated by companies who have been succeeding in the overseas market for years, their competitive advantage will come down to quality - "better ideas and techniques, doing more in less time."

Acumentum feels that the work on the TLF project has fostered the development of "deeper competencies." Although Yardley claims that the company has not made money on the project, he feels that they have picked up invaluable skills in engaging users and determining their needs, a skill applicable to both government and commercial work.

The following is a summary of Yardley's feelings of the process:

- the educational software industry is running according to an "Industrial Revolution paradigm" in which several 'long' years are spent developing standards, developing the product and then marketing it, meaning that change is slow to implement and prone to being outmoded by the time it is deployed. Yardley recommends a "rapid application development process" concept in which key institutions/ interactive and instructional designers work closely together (ideally, physically close, as well) to test a new concept or product, on which they provide timely and useful feedback, which is incorporated into the concept or product before wide-spread marketing and deployment. In other words the educational designers should hear the "children in the play ground".
- Spreading the funding over too many projects and suppliers means that "no clear leaders will emerge" nor excellence in any one product attained, and so, ultimately, the money spent will be ineffective in making a strong impact on the global educational software industry.
- Australian funding is more limited (half, in terms of GDP) in Education and Training spending than the U.S.A., U.K., and Germany.
- Scale is important for the development of Australian multimedia companies, providing:
 - better return on R&D;
 - better processes and pyramid economies;
 - greater brand distribution; and
 - international opportunities for innovative employees.
- Openness and transparency in the Australian Education sector is poor. Selection criteria don't appear to be based solely on "published, sound commercial decision criteria." Other agendas come into play such as "spreading the money around" and "teacher politics."
- Also, there is a problem with the private sector competing with government and semi-government bodies. These bodies often cross-subsidise or tender below costs, as for them it is purely a source of incremental revenue, that they get in addition to their other government funding (which covers their base costs). Whereas, competitive neutrality seems to be spoken about, in practice there is an unfair advantage provided to government-owned facilities even if it is just that they are not expected to make a commercial return for their shareholder.

6.42 CADRE Design

CADRE Design specialises in the development of interactive media, computer simulation, websites, and CD-ROMs for the educational sector. The great majority of CADRE's client-base is from large USA-based educational publishers, looking to develop companion multi-media for educational textbooks.

CADRE believe their international success is not only tied to Australia's competitive labour rates and technical expertise (which are easily copied by Russian and Indian competitors) but, also, by the creative elegance and practicality of solutions offered.

CADRE is owned by the University of Western Sydney and the CEO, David Hegarty. CADRE employs around 20 staff (many of whom are UWS graduates) and generates an annual turnover of approximately \$2.2m.

David Hegarty has had previous experience within the educational sector, and makes some interesting comparisons between his experience with these former clients and TLF that are worth noting:

- TLF is the only training organisation that doesn't compromise on standards and accessibility. Such an approach proves more costly (in management overhead, development costs, QA, etc), but makes for more effective output, and has a better chance of being useful.
- The TLF experience has enormously expanded their IPR base, particularly in its strict adherence to IMS² standards and developmental procedures. For example, they find the 'learning object' model useful in that it works well with computer-based training models and learning management systems, the concepts of which CADRE hope to use to expand into the American scholastic market or, possibly, into the corporate training market.
- TLF's world leading commitment to the open standards IMS model should 'pay off', as the overall global industry seems to be heading this way. Hence the TLF experience should put CADRE ahead of competitors and has already influenced their ability to 'please' and 'excite' overseas clients.
- There is no opportunity for high margin work when working with TLF, which operates according to a high touch model that is very transparent with regard to activities and costs
- It can be challenging to keep innovation and creativity alive in the process-driven culture of a TLF job, largely because of the need for the compilation of extensive documentation. However, TLF's awareness of this has led to significant, and effective, revisions in the documentation process
- TLF has significantly improved its strategies and processes in the areas of tendering, project management, quality assurance and documentation. Nevertheless, CADRE believes there are still further refinements possible which would lead to greater content output per dollar spent.
- Although meeting TLF's requirements has proven to involve a steep learning curve for CADRE, Hegarty believes they will now make money on any further TLF work which they might win, particularly as TLF has significantly improved its management processes.
- The fact that payment schedules with TLF, and clients, in general tend to be weighted at the tail-end of a project can prove challenging for small cash flow sensitive companies. For CADRE, the costs were generally highest at the start, when they were, "trying to get the model right and often paying extra consultancy and staff fees." He recommends that the payment schedule be modified to more closely match the actual expense pattern in order to alleviate the financial strain placed on small companies.

² IMS Global Learning Consortium Inc. is developing and promoting open specifications for facilitating online distributed learning activities.

6.43 Crank Media

Crank Media, is another educational specialist firm, located in Hobart, with around 13 employees. Crank possesses an annual turnover of around \$1m per annum of which 70% stems from its work with TLF, the Tasmanian Department of Education, and other educational clients.

Crank Media was one of four companies chosen to collaboratively develop the content for the *Science 1* priority area; and one of three chosen to develop *Science 2*. It is interesting to note the extent to which Crank's experience in working with TLF throughout the last year has differed from its current experiences in working with the organisation.

While performing the requirements of *Science 1*, TLF's project was still in its infancy and its processes were in need of dramatic streamlining and improvement in their effectiveness. Crank found that, even though projects were extremely intensive in the areas of QA and documentation, they remained largely ineffective in those areas, as different areas of TLF tended to provide conflicting feedback and request different outputs.

While performing *Science 2*, however, Crank has found that TLF processes have been enhanced dramatically with project management improved, TLF's feedback much more directed, and the documentation process helpful to them in achieving their outcomes.

Crank Media's comments at this point, regarding room for improvement, are that:

- The tendering process tends to be overly-prescriptive and not as streamlined as it could be. They found that, although they had been short-listed for every tender which they had submitted, they still had to register as a supplier each time, and re-prove their credentials;
- Documentation, even though significantly improved, still tends to be lengthy and demanding. Despite this, as the process continues, the documentation does assist the development process.
- Because TLF owns the IPR it is difficult for suppliers, such as Crank, to leverage off their product and exploit it outside of Australia and New Zealand, which means that Crank, potentially, misses out on possible international opportunities.

6.44 Dytech Solutions

Dytech Solutions specialises in solution delivery and technology. They were selected for the first and second stage development of the Exchange. Overall, Dytech have found their relationship with TLF to be very positive, in terms of innovation and the creation of opportunities. The provision of dedicated and professional TLF staff to the project helped their development process. However, they feel the school's education market is heavily politicised and that the involvement of too many bodies makes consensus on decision-making sluggish

Positive outcomes have been achieved from the project:

- From the experience and knowledge gained with projects with the Tasmanian Department of Education and the Learning Federation, Dytech is building and marketing the 'Learning Edge Content Management System' as a basis for e-learning and hope to market this to school, universities and corporations;
- Dytech has gained experience with new technology;
- Dytech has gained in credibility and marketing exposure; and
- Dytech's development of software which adheres to international interoperability standards (pedagogical, classification and technical standards).

For the most part Microsoft Software has been used for the functionality of the Exchange rather than 'home-grown' software. Although Dytech's custom free-text search engines and its proprietary technology have been utilised as part of the product technology.

7.0 CASE STUDY: LGOV NSW and Social Change Online

7.1 Summary and Recommendations

In 2001, Lgov NSW faced the challenge of finding an economical and simple process for developing websites for 130 regional councils who, up until this point, were either reluctant to develop their own website presence or had done so, but with less than optimal outcomes. This goal was successfully achieved by April, 2003 with 77% (101) of the councils possessing a customised website. Note, that this is a significantly higher number than that of other States with similar initiatives funded by Networking the Nation (NTN). Furthermore, by all indications, Councils appear very satisfied with their websites and the level of support they received throughout the design and implementation process.

Phase 2 of the project aspires to expand beyond the simple web-presence and to provide regional councils with the potential for seamless online interactive and transactional functionality which will allow for such things as the booking of council facilities, the lodging of complaints, e-procurement, and, potentially, marketing local business and commercial opportunities.

To fund these initiatives, Lgov NSW successfully applied for two grants from NTN. Phase 1 ('Internet Tools Initiative' and 'Online Services Delivery Initiative') was allocated a sum of \$1,400,000 and was completed in August, 2002. Following the success of Phase 1, Phase 2 ('Local-e Next Steps') was allocated \$4.6m, and is due to be completed by June, 2004.

Lgov's key supplier for the Phase 1 Internet Tools initiative was Social Change Online (SCO). SCO were contracted to develop and implement up to 130 customised council websites for a contract price of around \$375,000 (i.e. around \$3,000 per website).

The successful outcomes of the partnership and Phase 1 can be attributed to the following factors:

- Lgov NSW and SCO convinced councils to use a standard website 'template', which considerably reduced development costs, while still providing a limited number of customisation options.
- The strategic aims of providing a 'low cost' solution, centrally managing the implementation, and keeping ongoing operational and maintenance requirements to a minimum, were key elements in winning the support of under-resourced regional councils.
- Unlike many Government and Corporate IT projects, Lgov NSW 'insourced' the management of the project by means of a dedicated and centralised project office consisting of only two staff members. This small team possessed considerable experience with local government, excelled in 'keeping things simple', kept councils expectations 'realistic', and took full responsibility and accountability for all aspects of the project.
- Lgov NSW's initial call for tenders was quite open to suggestions and innovations from tenderers. Only after SCO was selected as the preferred tenderer, did a two month process of further refinement and negotiation of specifications take place. In the end, this process seemed to nicely balance innovation, while still providing Lgov NSW with a level of assurance about the quality of SCO's deliverables.
- Lgov NSW and SCO were a 'good fit' as partners. SCO was able to deliver the implementation within the very limited budget available, were supportive of the strategic aims of the project, and provided a good deal of expertise in taking public institutions online.

SCO has been positive about Lgov NSW's strategies and processes in this project. In particular SCO have expressed the following positive points regarding this project:

- Lgov NSW correctly chose SCO on the basis of being a 'partner of expertise' for this project. This strategy compares to the common 1990's phenomenon of choosing a platform provider – a strategy, which SCO believes is becoming less compelling, as it believes 'expertise' in the online applications market is becoming, and will become, more valued than the 'technology platform'.
- Lgov NSW recognised SCO as a valued partner and was forthcoming in recognising this to external parties, which has led to further work for SCO.

Encouragingly, SCO's learnings and experience in this project have had a direct influence on its prospects of being awarded a contract for local councils in the U.K and with a number of metropolitan councils in Australia.

In contrasting the largely successful strategy of Lgov NSW, with its other experiences with Government, Sean Kidney, CEO of SCO, highlighted the following points:

- The adherence to AGLS standards within all levels of government is inconsistent and patchy. Furthermore, the National Office for the Information Economy (NOIE) is under-resourced to police and ensure such adherence in a meaningful way. SCO sees compliance to (and further development of) AGLS standards across government as a crucial plank in successfully providing single entry points to government information, and necessary for the operation of an efficient and open government.
- Often, Federal and State Governments overly protect, or over-charge, private companies, other Government Agencies, and the general public, for access to 'public' data. Such action restricts the process towards a more open, and less silo-oriented, government. For example, SCO have witnessed a few State Government Agency projects fail due to the effect that these inter-Agency added 'transfer' costs had on project economies.
- In the quest to get 'apples to apples' prices, centralised State Government purchasing strategies often, inappropriately, favour the offering of 'standardised' solutions from vendors. In the view of SCO, such a strategy is often more focussed on the needs of the centralised procurement agency to justify the procurement fee it charges, rather than on seeking genuine innovation and the partnering solution required to get the best value for money.

In conclusion, while we make no firm recommendations from this case study, we believe that Lgov NSW's tendering and partnership approach with SCO provides valuable learnings.

7.2 Lgov NSW and its impact on various components of the Digital Content and Applications Markets

7.21 Overview of Lgov NSW

Lgov NSW represents the interests of the 172 metropolitan, regional and rural Councils and Shires of NSW. Its core activities are to act as an intermediary between the State and Local Government; to promote the establishment of an appropriate policy framework for Local Government; and to oversee Local Government activities.

Most of the metropolitan and large regional councils have funded and established their own online services, independent of Lgov NSW. As such, there appears to be no 'whole of local government' policy or co-ordination of web development activities. These existing online services vary in their sophistication and capabilities. Depending on these capabilities, development costs start at \$20,000 and can easily exceed \$100,000 per council. Furthermore, there is little common standardisation, or co-operation across councils, often leading to duplication of development costs, and missed opportunities to develop common approaches to authorship and custodianship of content which would ensure information on a government-wide basis is kept up to date, comprehensive and compatible.

A concern for Lgov NSW (that is the subject of this case study) was that some of the smaller regional councils of NSW had not embraced online services and did not even possess a rudimentary webpage presence. From the regional council's point of view, however, they often viewed online services as

expensive to develop and costly to maintain, particularly, given the low level of funding and technology skills available to them.

To sum up, prior to this NTN-funded initiative, Lgov NSW left it to the resources of individual councils to fund and design their own online services. By and large, this meant that only the larger, more prosperous councils developed online services, and that they did this in a largely unco-ordinated fashion. The advent of NTN-funding, and this *Local-e* initiative, not only closed the affordability 'gap' between councils, but also resulted in a more co-ordinated whole-of-local government approach.

7.22 The Local-e Project

In 2001, Lgov NSW secured a grant from 'Networking the Nation' (NTN) to fund its initiatives in a two phase process.

Phase 1

In Phase 1, Lgov NSW acquired a grant of \$1,400,000 to design and implement websites for 130 councils and to prepare ground-work for Phase 2. The project commenced in November, 2001 with a finalisation date of 31 August, 2001. It was composed of:

The 'Internet Tools Initiative' which laid the foundation for common infrastructure and e-tools to be shared between the councils and provided web publishing tools and basic service delivery for NSW councils; and

The 'Online Service Delivery Initiative' which aimed to investigate and scope out more advanced and interactive service delivery applications as a lead-in to Phase 2 initiatives.

At the time of writing this report, Phase 1 has been successfully completed, and Lgov NSW is in the process of negotiating with preferred tenderers for Phase 2.

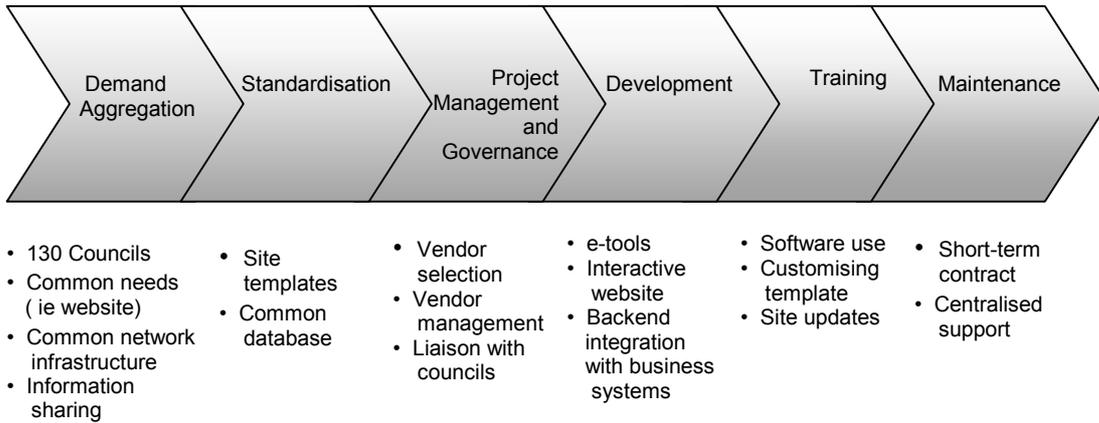
Phase 2

Phase 2 of Online Action is known as *Local-e* 'Next Steps' and is composed of five functional components: e-Services; e-Mapping; e-Procurement; Standards and Security; and Hosting and Portals. NTN has allocated \$4.6m towards Phase 2 which is due to commence in June, 2003 and scheduled for completion by June, 2004. Phase 2 will build functionality into the websites, thereby:

- enabling two-way communication between the councils and the communities which they serve;
- allowing for the provision of extended services (i.e. the booking of facilities, access to services, lodgement of complaints, etc.);
- establishing an e-procurement system; and
- searching across all participating council sites.

Securing funding for the development of Phase 1, set in motion an evolution of various strategies and processes towards the development and implementation of Lgov's digital content initiatives. This is displayed in Figure 7.22.

Figure 7.22: Lgov's Digital Content Strategy Initiatives



7.23 Demand Aggregation and Council Buy-In

Local-e initiated the concept of demand aggregation through collectively grouping the 130 councils together, identifying their common online needs, and establishing a system whereby these needs could be satisfied through the use of a common network infrastructure and access to common technical resources and development infrastructure. Many of the councils were initially skeptical about taking part in the project, but through educating council members and promoting a simple web-development scheme, Lgov NSW obtained buy-in from the majority (77 %) of councils.

7.24 Standardisation

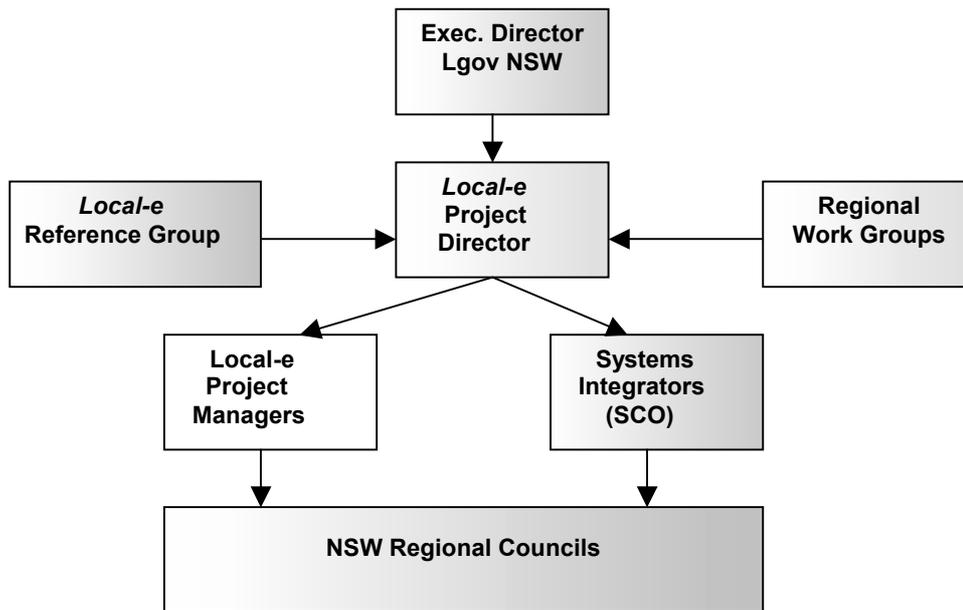
Standardisation was achieved through the design and dissemination of a common website template that standardised the look, feel and navigation of websites. Each council achieved the ability to easily customise content (information) on their particular website, and to create updates or modifications through typing in changes at their remote location and uploading them to a central database. Furthermore, Lgov NSW specified that the Australian Government Locator Service (AGLS) metadata standards were to be adhered to in the website development to ensure that "the searcher can use the same search criteria" to navigate themselves around all council websites. As policies and standards are developed and approved they will be published on the *Local-e* website and reviewed for currency on a regular basis.

7.25 Project Management and Governance

Local-e took control of all Project Management aspects of the design and implementation of the websites. This included:

- the initiation of the tendering process and selecting the vendor (SCO);
- liaison with the councils and identification of their needs, priorities and services to enhance web development - including generating feedback from councils through survey forms and conducting formal presentation sessions;
- the design of a business specification for the outline of the website;
- overseeing the development of the web template which was built upon standardised supplier software; and
- ensuring timelines were met by allocating payments in accordance with the achievement of milestones.

Figure 7.25: The Local-e Hierarchy



Lgov NSW set up a full time project team (called *Local-e*) consisting of a Project Director and three Project Managers. Additionally, a Reference Group, consisting of State Government, Lgov NSW and local council representatives was responsible for steering and endorsing the strategies of the *Local-e* project team. Several Regional Work Groups were also established to represent the interests of the ‘user’ groups.

This approach seemed to strike a good balance between the provision of project governance and oversight, and the need for the *Local-e* project team to ‘get on with the job’ in an efficient and cost-effective manner.

Local-e prepared a tender for Phase 1 which, according to SCO, was clear in its aspirations without being overly prescriptive about preferred technical solutions. It was also made clear to tenderers the amount of financial resources available for the task and the prescribed timeframes. Three tender responses were considered for further evaluation. The final tender offer was contingent on the quality of the supplier's proposed plan to fulfil the project requirements.

Phase 2 was broken into five separate projects and, the tendering process commenced in late 2002, with a two month scoping phase and the project work due to commence in June, 2003. Although preliminary, the success of Phase 2 seems likely due to:

- Lgov NSW breaking Phase 2 into five separate areas, thereby allowing suppliers to tender for only those parts on which they can successfully deliver; and
- Learnings from Phase 1.

In assessing tenders for both phases, Lgov NSW has looked for the following features:

- the presentation of proposed project solutions and outcomes;
- low cost to develop (within NTN funding available) and minimum maintenance costs;
- ease of content management by local councils;
- the supplier's past experience in working with government agencies;
- user-friendliness - easy navigation facilities on the website and easy for councils to maintain the content of their site;
- not locked into utilising the vendor indefinitely; and
- payments contingent on delivery.

7.26 Development

Development of the websites was based upon a standard template devised through extensive liaison with the councils. To facilitate development, the websites were built using SCO software including:

- SCO's 'AIMS Website System' - provides the councils with the ability to develop and maintain the content of their individual websites using browser based interface.
- SCO's 'AIMS Website Toolkit' - provides a suite of tools from which councils can select services to provide on their website.

Development was enhanced through the fact that a dedicated amount of funding (obtained from NTN) was allocated to the project. It should be noted that the use of SCO software has brought with it 130 'perpetual' licenses.

7.27 Training

Local-e organised and conducted an extensive training program on website management between March and December, 2002, in a number of locations in regional NSW. *Local-e*-developed training material was provided, and councils were given the option of nominating employees to attend. This 'council-friendly' approach to training resulted in the training of more than 350 Council staff members.

7.28 Maintenance

In general, the website system requires minimum facilities and resources for maintenance purposes. *Local-e* provides ongoing support to users once a site has been put into production, and all website content is maintained by individual councils. In the event of technology or software problems arising, \$16,000 a year has been allocated to SCO to maintain Phase 1 for a period of two years.

7.29 Outcomes for Lgov NSW

Lgov NSW effectively achieved what it had set out to do by bringing the NSW country councils online with easy to use, customised websites and seamless online service delivery, within the specified timeframes. At project close, 77% (101) councils, had a functional website with online service provision.

7.3 Lgov and Social Change Online

7.31 Overview of Social Change Online

Social Change Online is a privately owned Australian company specialising in the areas of consultancy, content management systems, and geo-spatial technologies. Its client-base is largely composed of government (60%), unions (25%) and community organisations. It currently employs approximately 40 staff and has an annual turnover of approximately \$4m.

Key Service Areas include:

- Web site development;
- Web content management;
- Audit services for web and public communications - including standards compliance;
- Portals and gateways; and
- Maps for the Web.

SCO's mission is to be involved in the process of transferring all 'public knowledge' to the internet, where websites adhere to, and are regulated by, appropriate standards such that information is accessible, and comprehensively linked. In this type of environment public data can be used for new applications, and new content oriented towards more open, and less silo-oriented government.

SCO's 'blue sky' is built around their geo-spatial technologies which have been largely developed through a relationship with the 'NSW Department of Land and Water Conservation'. SCO states that, without the contract from the 'NSW Department of Land and Water Conservation', they would not have made the progress in the development of IPR and geo-spatial technology that they have to date.

Key Success Factors (KSFs) for SCO's business include:

- technological innovativeness;
- the promotion and championing of the use of whole-of-government standards (e.g. AGLS);and
- a focus on public sector issues and challenges.

7.4 How the Relationship Between Lgov NSW and SCO has Fostered Innovation

Lgov NSW's relationship with SCO in Phase 1, and the additional supplier in Phase 2, has had a direct impact on industry innovation.

In Phase 1, by opening themselves up to the risk of awarding the contract to a smaller local supplier (i.e. SCO), without the financial strength, and widely-regarded reputation of larger organisations, Lgov NSW reaped the benefits of successfully fulfilling the outcomes of a cost-effective project and building a strong relationship with a trusted supplier. SCO also gained by enhancing its reputation, gaining valuable industry experience, and accessing funding for further developments. Such a project has the potential to stimulate market interest in local markets, driving 'home-grown' innovation.

By taking the time and effort to break up Phase 2 into five separate projects and tendering out each one independently of the others, Lgov NSW gained by getting the best company to tailor their offerings to specific aspects of the project for 'optimal' fit, diversifying risk and establishing a broader range of expertise. The outcome is that a greater number of 'players' have a chance of winning contracts and bidding for aspects of the project on which they can successfully deliver. Had Lgov NSW tendered out a large 'winner-take-all' contract it is probable that the tender would have been awarded to a larger organisation with a broader scope for service delivery.

Lgov NSW's insistence on adherence to AGLS and W3C standards has paved the way for national and global interoperability and has laid a firm foundation on which to build.

Overall gains by SCO include:

- a reduction in software costs through ongoing development and refinement of the product;
- the learning of operational efficiencies as a means to increase profitability; and
- knowledge gained by exposure to councils in regional NSW.

Although, SCO has not specifically raised issues with regard to their relationship with Lgov NSW, there are changes and recommendations which SCO would like to see implemented overall in order to facilitate their ongoing innovative processes and ultimate survival in the Australian marketplace.

Specifically:

- The adherence to AGLS standards within all levels of government is inconsistent and patchy. Furthermore, National Office for the Information Economy (NOIE) is under-resourced to police and ensure such adherence in a meaningful way. SCO sees compliance to AGLS standards across government as a crucial plank in successfully providing single entry points to government information, and necessary for the operation of an efficient and open government.
- Often, Federal and State Governments overly protect, or over-charge, private companies, other Government Agencies, and the general public, for access to 'public' data. Such action restricts the process towards a more open, and less silo-oriented, government. For example, SCO have witnessed a few State Government Agency projects fail due to the effect that these inter-Agency added 'transfer' costs had on project economies.
- In the quest to get 'apples to apples' prices, centralised State Government purchasing strategies often, inappropriately, favour the offering of 'standardised' solutions from vendors. In the view of SCO, such a strategy is less than effective in seeking the genuine innovation and partnering solutions required to get the best value for tax-payer's money.
- SCO believe that, increasingly, competitive advantage for information-rich organisations (e.g. Government) and those that serve them (e.g. SCO), will be less reliant on technical skills and technology infrastructure per se and will move towards "highly educated and independent thinkers" who have broad "literacy, editorial and subject matter skills" relevant to their activities and business. For this reason, SCO believes that Government should increasingly be looking towards "partners of expertise" rather than the "technology platform providers" that they have tended to favour in the recent past.

8.0 CASE STUDY: SBS New Media

8.1 Summary and Recommendations

SBS is, currently, a modest user of externally sourced digital content. There are two major reasons for this situation:

- Due to the embryonic, evolving, and unproven nature of digital products (e.g. websites, interactive TV, etc.), the business models and practices for digital content provision remain largely unestablished. As a result, SBS believes it is easiest to 'sculpt' its evolving digital content products in-house, at least until business models and practices, such as those available for traditional television and film production, become established.
- Outside modest initiatives with external funding bodies, such as Film Victoria, SBS New Media currently lacks any funding sources to commission works of original digital content.

Notwithstanding this modest participation in the digital content industry, to date, SBS's New Media division is active on a number of small scale, but highly innovative fronts. Fundamentally, through the use of new digital applications technologies, and partnership arrangements, it is seeking to:

- increase 'productivity' within the traditional broadcasting environment. For example, SBS's partnership with MediaWare resulted in a computer-generated automated weather presentation appearing on the nightly television news service, and an electronic programming guide (EPG) service;
- develop new forms of television service, such as interactive television, that stimulate audience interest in SBS, and the free-to-air (FTA) medium, in general. For example, SBS's partnership with Sun Microsystems resulted in an interactive television service for *Dateline*, that could also be used as a de-facto standard across all broadcasters; and
- create online properties that possess a 'life of their own' and are relatively independent of television content and brands. These properties are, essentially, 'sculpted' in-house, with some content provided by external providers such as SportAll.

The SBS New Media Division (SBSNM) has made some significant achievements in the above areas, which speak strongly of the strengths in the strategies they have chosen for developing opportunities and engaging collaborative partners.

One such strategy is evident in their mantra 'innovate or incubate'. This implies that SBS will not try to replicate the products or processes of other broadcasters (which it couldn't hope to fund anyway) and, instead, will focus on developing completely new ideas. It also means that SBS will regularly offer itself as an incubation 'test-bed' to industry vendors (e.g. Sun and MediaWare) who are seeking to develop the products and services that they expect to sell to other broadcasters in Australia and around the world.

These vendors are attracted to using SBS as a partner for several reasons, including SBS's generous approach to sharing knowledge and intellectual property, its commercial neutrality, its ease of decision-making, its speed of response, and its willingness to be a reference site. In our view, SBS has traded very well on these strengths and, as a result, has attracted some very good partnership arrangements and outcomes. SBS's partners, in turn, appear delighted by their involvement, and have been able to quickly, and relatively cheaply, develop some leading products with significant commercial potential.

It is also worth noting that the wider FTA broadcast industry may, also, eventually benefit from these innovations. For example, the open source interactive TV platform could, potentially, be used as an industry-wide standard in Australia. In this sense, it could be said that SBS is playing a wider FTA industry leadership role, by seeking to stimulate the uptake of digital TV and encouraging standardisation on common technologies and open standards within the industry.

Although SBS implicitly performs, what could be called 'industry development' activities, it does not possess any explicit 'industry development' goals or strategies. Further, these types of activities do not form part of SBS's Charter, its funding-base, or its evaluation process. Given SBS's active 'innovate or incubate' strategy, and its broader FTA industry leadership role, which could lead to significant industry development multipliers, we think this situation is a pity. In our view, SBS is well-positioned to identify, trial, promote and 'pass-on to industry' new product and service ideas that may well have significant commercial potential for its partners and/or could help stimulate the FTA industry in Australia. Thus, we

recommend, it would be useful if SBS's impact on industry development be formally measured, and the outcomes weighted towards active funding and rewards by Government.

8.2 SBS's core business activities and its operating context for digital content development

SBS is one of two national free-to-air broadcasters in Australia. SBS's Charter is to "provide multilingual and multicultural television and radio services that inform, educate and entertain all Australians and, in doing so, reflect Australia's multicultural society." Since its inception in 1991, SBS has successfully grown its presence within the Australian media landscape and, in particular, has developed a strong and passionate following amongst a variety of interest groups within the community.

SBS funding is relatively fixed in nature and is approximately \$160m per annum. Approximately 80% of this funding is derived through annual Federal Government appropriations, and the remainder through advertising, sponsorship, merchandising, investments and other services.

SBS operates in a broadcasting industry that is undergoing some of the most profound change in its history. A few of the key changes include the following:

- The introduction of digital FTA television into Australia has opened up the opportunity (and in some cases the obligation) for SBS, and other FTA broadcasters, to introduce new services, such as HDTV, wide-screen SDTV, multi-views, multi-channels, datacasting and interactive television.
- The rapid rise and popularity of internet services has provided SBS the opportunity to enhance and strengthen its audience relationship through the development of website properties, chat rooms, email and the like.
- The introduction of PayTV into Australia over the last decade has expanded the opportunities to package and sell new forms of content (e.g. World Movies).

Of course, the above industry changes not only present opportunities but, also, many direct threats, and challenges, to SBS's traditional operations. Principally, these arise as, within SBS's relatively fixed budget environment, it must contend with:

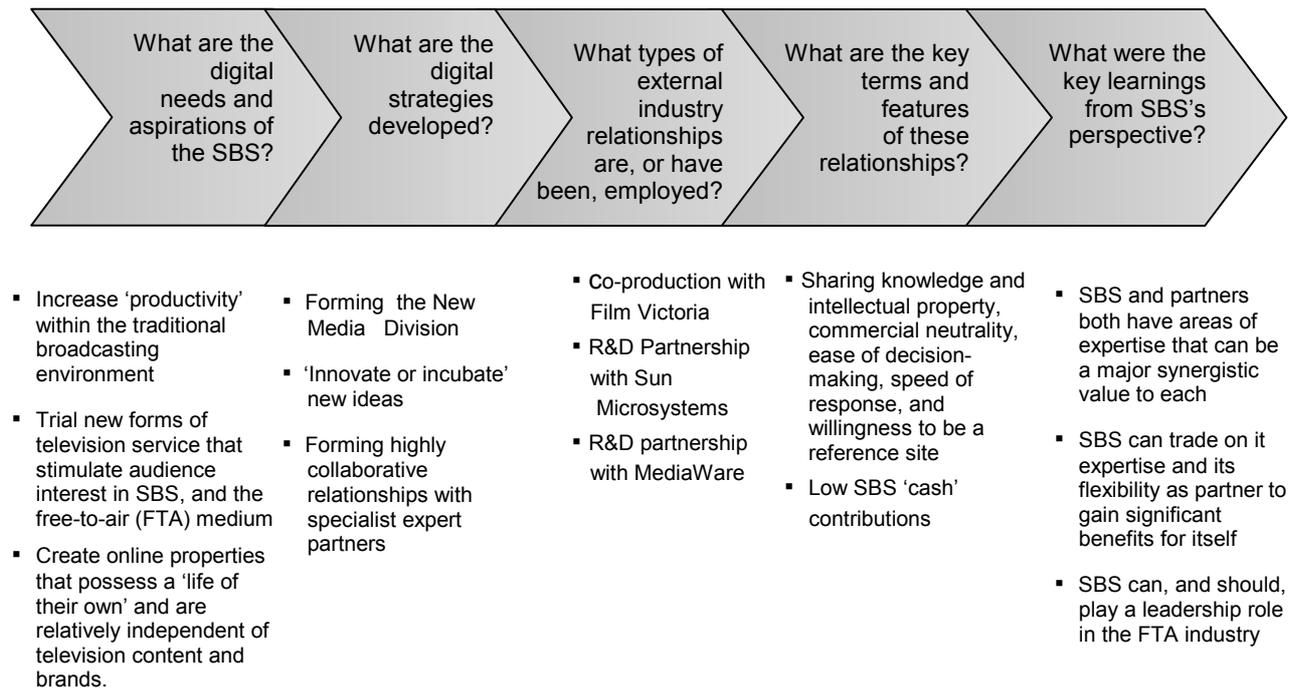
- a rapidly expanding requirement for low-cost content, driven by longer broadcasting hours, the multi-channel environment of digital FTA³, and the development of broadband media sites;
- the need to develop and operate new digital distribution platforms such as digital terrestrial TV⁴, interactive TV, and narrowband internet; and
- the requirement to develop new forms and methods of packaging content driven by competition from other media players in new services such as video-on-demand, websites, electronic programming guides (EPGs), and interactive television.

In this dynamic and challenging context, digital content production and digital application developments are expected to play a central role in assisting SBS to take advantage of these opportunities and to meet the challenges involved. Figure 8.2 provides a broad overview of how SBS has proceeded.

³ While SBS is funded to simulcast its principal television service in digital, it has not received additional Government funding to source, or produce, content for either of the two remaining digital channels now made available under the digital roll-out. As such, (and given the low FTA digital TV penetration in Australia to date), SBS simply chooses to broadcast a very low-cost EPG service and an imported World News service on each of these two channels.

⁴ SBS has been funded (by the Federal Government) to roll-out its digital television services in accordance with its regulatory obligations under the Broadcasting Services Act. This means SBS is fully funded to replicate its main analog television service in digital throughout Australia.

Figure 8.2: SBS's Digital Content Strategy Initiatives



Through the use of new digital content and applications technologies, and partnership arrangements, SBS is seeking to:

- increase 'productivity' within the traditional broadcasting environment. For example, the partnership with MediaWare resulted in an automated, PC-based, weather presentation on the nightly television news service and an automated EPG service;
- trial new forms of television service, such as interactive active television, that stimulate audience interest in SBS, and the free-to-air (FTA) medium in general. For example, the partnership with Sun Microsystems resulted in an interactive television service for *Dateline*, that could also be used as a de-facto standard across all broadcasters;
- create online properties that possess a 'life of their own' and are relatively independent of television content and brands. These properties are, essentially, 'sculpted' in-house, with some content provided by external providers such as SportAll (who provide the daily news to SBS's soccer website).

Overall, it must be said that SBS is, currently, a modest user of externally-sourced digital content. There are two major reasons for this:

1. Due to the embryonic, evolving, and unproven nature of digital products (e.g. websites, interactive TV, etc.), the business models and practices for digital content provision are largely un-established. As a result, SBS believes it is easiest to 'sculpt' its evolving digital content products in-house, at least until such equivalent business models and practices, such as those available for traditional television and film production, become established.
2. Outside modest initiatives with external funding bodies, such as Film Victoria, SBS New Media currently lacks any funding sources to commission works of original digital content.

Notwithstanding, as it became apparent to SBS senior management that the new digital technologies would significantly reshape business processes and priorities within Broadcasting, and that platforms, such as analog TV, digital TV, Internet and iTV were going to increasingly converge in their functions and output, it was decided to create the SBS New Media Division (SBSNM) to manage these issues across the Broadcaster. Today, led by Will Berryman, SBSNM is a major operational division (consisting of around 50 staff) and is responsible for most of SBS's technology infrastructure and technology enabled services.

This includes the following four areas:

- 'Back office' IT (e.g. desktops, servers and software);
- 'Front office' multimedia (e.g. SBS website development and support);
- Transmission engineering (e.g. SBS's analog and digital transmission infrastructure); and
- SBS's R&D initiatives.

Another key strategy of SBSNM was the employment of the 'innovate or incubate' mantra. This implies that SBS will not try to replicate the products, or processes, of other broadcasters and, instead, will focus on developing completely original ideas of its own. It also means that SBS will regularly offer itself as an incubation 'test-bed' to industry vendors who are seeking to develop the products and services that they will eventually sell to other broadcasters in Australia and around the world.

As a result, SBSNM has entered into a number of such partnerships (e.g. Sun and MediaWare) as a vehicle to fulfil its ambitions. In fact, due to the lack of funding available for innovation development, and the lack of its own internal human resources, SBSNM has, in many ways, been forced to proceed down this path of collaborative partnerships. Not that this situation seems to overly worry SBS or its partners. These partners are attracted to using SBS for several reasons, including SBS's generous approach to sharing knowledge and intellectual property, its commercial neutrality, its ease of decision-making, its speed of response, and its willingness to be a reference site. SBS has fared well from this approach and has managed to gain access to valuable applications and products, with virtually no cash contributions of its own.

SBS has three major partners in the digital content and applications area. They are MediaWare, Film Victoria and Sun Microsystems.

In the MediaWare relationship, SBS offered itself as a 'test-bed' for the Canberra-based technology company to develop, and trial, an MPEG rendering system that would allow the design and production of broadcast quality video graphics on a personal computer. SBS were attracted to this idea as a means to significantly reduce the cost of producing content (i.e. it would move content production out of costly broadcast studios and into the low-cost personal computer (PC) environment). Correspondingly, MediaWare was keen to develop and trial this technology and needed a willing broadcast partner to help develop its 'proof of concept'.

As a result of this trial, SBS and MediaWare produced a fully automated EPG and Weather presentation that are both now broadcast by SBS Television. SBS estimates the cost of their EPG development to have been in the order of a mere \$40,000 (c.f. \$600,000 for some other broadcasters) and the transfer of the weather to the PC (from the studio) having saved them as much as \$400,000. MediaWare, for its part, is now marketing this solution around the world.

SBS have established a three year, \$2m New Media co-production accord with Film Victoria. This is a 50/50 venture aimed at supporting and promoting the Victorian New Media sector; enhancing the capability of SBS to deliver New Media services and creating innovative value-added services. Film Victoria's contribution is entirely cash, while SBS's 50% contribution is evenly split between cash and 'in-kind' contributions.

The major project to have come from this Accord, to date, is the 'Whatever Music' initiative. This project involved the film and sound recording of a number of non-english speaking background rock bands throughout Victoria. The end result was the production of a CD-ROM and the 'Whatever Music' website.

This SBS/Film Victoria initiative share many of the same strengths and weakness of the ABC/AFC initiatives (i.e. Documentary Online and Broadband Production). As such, we refer readers to the analysis provided in this case study.

The remainder of this case study examines the relationship between SBS and Sun Microsystems only.

8.3 SBSNM, Sun and iTV

Sun Microsystems is a leading international supplier of information technology (IT), including hardware, software and services. With USD\$18.3 billion in annual revenues, Sun is found in more than 170 countries and has been part of the Australian landscape for 20 years.

Sun, has not traditionally been a major supplier to the broadcast industry, outside of its role as an IT vendor offering administrative support functions. However, as broadcasting moves towards digitisation and technological convergence, Sun sees significant opportunities to leverage its applications development, and hardware expertise, into market opportunities for itself.

The initiative started when SBSNM received a mandate from SBS's Board of Directors to find partners interested in the convergence of technology and broadcasting, including interactive TV (iTV). SBS decided to develop a 'proof-of-concept' interactive iTV solution for its international affairs program *Dateline* with a back-channel function that would allow viewers to submit comments or retrieve information while the program was going to air.

The development of the iTV solution required a marriage of broadcasting and information technology expertise. SBS required a technology partner that could understand the architectural requirements of the project and had a sound understanding of IT and a willingness to learn about broadcasting.

In September, 2001, SBS entered into partnership with Sun, who was responsible for the overall architectural design of the solution.

Sun was largely selected on the basis of the following factors:

- Sun had been a long-term IT vendor to SBS and had established good working relationships with the SBS management team.
- SBS knew that Sun's products and services would be useful for developing an iTV solution, although, SBS could not afford to purchase these products and services outright. However, Sun was willing to contribute these products and services in exchange for 'in kind' contributions from SBS.
- SBSNM's aggressive timetable for implementation of the iTV solution required a vendor with best practices and methodologies in the area of project management and applications development. Sun could provide this, and was willing to share its skills with SBS staff.
- High availability and reliability could not be compromised as downtime in broadcasting is not an option. Based on its experience with Sun equipment, SBS had faith in the reliability of Sun's platforms and technologies.

However, SBS was also selected by Sun for partnership. John Arnold, Director of Technology Sales, Asia-Pacific, knew SBS as a company who were "fantastic to work with" and not "buried in bureaucracy" as other such organisations were thought to be. Further:

- Sun saw the 'real value' in the development and application of processes and services, which it could exploit outside SBS;
- SBS were willing to be a reference site for Sun;
- SBS offered no competitive threat to Sun; and
- SBS was capable of making quick decisions and moving expeditiously and effectively towards outcomes.

SBS and Sun also collaborated with Phillips Research and Strategy & Technology to develop the 'proof of concept'.

8.4 How the relationship between SBSNM and Sun has fostered innovation

The partnership entered in between SBSNM and Sun was a symbiotic one. For SBS, the venture cost them time and energy and, in return they received hardware, a prototype iTV solution, plus the technical transfer of knowledge and training, including mentoring on architectural guidance and best development practices.

Through its partnership with Sun, SBS estimates that it was able to reduce time to market for the iTV solution by approximately 60% (compared with doing it internally). An added bonus was the transfer of IPR from Sun to SBSNM which resulted in 50% faster development time for other IT initiatives, a 95% reduction in production time, and up to 50% reduction on costs.

Sun, in return, received valuable knowledge and training in the areas of broadcasting. According to Berryman, "Sun is the only big company today that speaks broadcasting and television." Today, all of the other Australian television channels are now working with Sun, and they have ambitions to sell their expertise to broadcasting companies such as PBL and Fox. Sun is also using the SBS project as a world-wide reference site.

9.0 CASE STUDY: ScreenSound Australia

9.1 Summary and Recommendations

ScreenSound Australia plays a significant role in the archiving, cataloguing, content management and distribution of components within the digital content and applications market. In particular, there are two key areas where ScreenSound have played, or could play, a pivotal role in the development of digital applications:

- In the development of new archiving, cataloguing and content management applications that improve the usability and accessibility of archive material. This opportunity is made available by ScreenSound's role as the national screen and sound archive, during a period of rapid technological improvements such as the advent of digital storage, the internet, and data-mining techniques; and
- As a key partner for organisations and/or projects that wish to exploit ScreenSound's extensive archive of Australian heritage material using new models for accessing, re-purposing and distributing content (e.g. the Olympics vignette project).

ScreenSound's results in both of these areas are indicative of the strengths and weaknesses in the strategies and processes Government Agencies currently employed in seeking innovative outcomes.

To play a role in the first of these areas, ScreenSound has invested in a considerable amount of digital infrastructure, including storage area networks, video digitisation facilities, digital audio workstations, and so on. Most of this infrastructure is comprised of 'off the shelf' components procured from IT vendors. However, in order to effectively meet ScreenSound's comprehensive collection management needs, it became apparent that no 'off the shelf' solution was suitable, and that a new system was in need of being developed. To this end, ScreenSound formed a collaborative partnership, with Canberra-based Wizard Information Systems, to successfully produce the 'Merged Audio Visual Information System' or MAVIS.

MAVIS has subsequently been a great success, serving to significantly enhance ScreenSound's collection management capabilities, and, also, being selected as the system of choice by prestigious archive institutions around the world.

ScreenSound's and Wizards collaborative partnership model provides a good example of how a Government Agency can be an agent of industry innovation, while deriving significant benefits for itself in the process. We attribute the success of this partnering strategy to:

- the development of a long term 'shared vision' ;
- clearly defining the benefits and/or outcomes each party seeks from the collaboration;
- defining the roles and areas of inter-dependence (e.g. ScreenSound's archiving expertise and Wizard's software development expertise) that work to keep both parties honest;
- the establishment of relationships at all levels within both organisations; and
- maintaining close contact (including physical proximity) between key decision-makers and innovators.

In the second of these areas (exploiting the archival material) ScreenSound has been much less successful, due to a number of factors, partly related to the Government's approach to the management of risk and innovation:

- There is limited access to 'risk capital' made available for supporting innovation and risk-taking ventures and, in fact, many funding schemes providing risk capital are inaccessible by Government Agencies (i.e. capital funding is generally allocated on a 'depreciated cost' basis and, therefore, only for the replacement of existing assets) .
- Often a bias exists such that Project Management risk is measured in terms of 'what could go wrong' rather than in terms of 'what is the cost of not doing this'; and
- Outputs and returns tend to be measured conservatively and on a short-term basis, thereby making it difficult to spend recurrent funding on projects that will not return identifiable outcomes for a number of years.

Many of these issues appear to stem from Government accounting and funding practises which, in their allocation and management of capital, focus almost exclusively on the capital required to maintain existing tangible assets in a functioning state, as opposed to the more commercial view of managing a total 'returns on assets' (tangible and intangible), and managing a portfolio of speculative projects (in addition to the core business of the organisation). The limited scope that exists for New Policy Proposals does not fit well with small to moderate scale enterprises.

These practices pose a particular problem for cultural organisations, as they usually possess assets (e.g. an archive) whose utility can, and should be, constantly re-invigorated (e.g. digitised, re-purposed etc.) As ScreenSound head, Ron Brent, says "our assets have been treated similar to that of a company who maintains a fleet of trucks and we, therefore, have lacked the freedom to utilise capital for any innovative or speculative purposes, such as those that may lead to significantly improved services, or productivity gains. The changes to asset funding in the recent budget will make a substantial difference to our flexibility in this area".

9.2 ScreenSound's Core Business Activities and its Operating Context for Digital Content Development

9.21 ScreenSound Australia

ScreenSound Australia, the National Screen and Sound Archive, plays a leading role in collecting, archiving and preserving Australia's film, television and sound heritage. Established in 1984, its overall functions include the management and preservation of Australia's audio-visual archives; the provision of access to the collection to broadcasters, program producers, researchers, the general public, other cultural institutions and film or sound enthusiasts; and the promotion of Australia's audio-visual heritage.

Functioning as an Agency within the Department of Communications, Information Technology and the Arts, ScreenSound's activities are supported by a Council, which provides advice to the organisation on policy, strategic and broad management issues. It should be noted that, at the time of writing this report, the Federal Government has announced that plans are underway to amalgamate ScreenSound with the Australian Film Commission (AFC).

ScreenSound's digital strategy revolves around fulfilling three main objectives:

- to use computer technology to digitise and archive analog material according to preservation criteria;
- to collect and archive material presented in digital format (e.g. CDs, DVDs, etc.); and
- to make ScreenSound's collection readily available using new digital communications technologies.

9.22 Merged Audio Visual Information System (MAVIS)

MAVIS is a sophisticated and comprehensive media asset management software application, which has resulted from a twelve-year partnership between Wizard (a Canberra-based IT company) and ScreenSound Australia. The system addresses the traditional concerns of archivists, is able to accommodate the needs of specialist and large national collections, and also incorporates functionality essential for digital asset management and online delivery.

In 2001-2002, ScreenSound embarked on a strategy to enhance MAVIS, and give it the ability to support digital components, manage digital assets, and utilise the developing Rights Management Software. Digital works, which may only exist as files, or may be carried on tapes or disks, can now be catalogued in a manner equivalent to analog material, but with the added advantage that the digital item itself can be included within the catalogue (rather than just on a shelf in a vault). This allows for the unique capability of producing an integrated collection comprised of analog works, their digital copies and born digital works.

Further, MAVIS is able to integrate the intellectual and physical, or technical, description of a vast range of material including audio-visual material, objects, equipment, memorabilia, and paper documentation. It gives the user the ability to catalogue material (in accordance with international standards for description) while recording its (and any copies) complete physical or technical description.

MAVIS continues to be developed on an ongoing basis to bring added functionality, such as the delivery of content and collection material via web or broadband networks.

The international recognition that MAVIS has received is testament to the innovativeness and uniqueness of the product. It has been successfully exported to the Norwegian National Library, the American National Library of Congress, the Academy of Motion Picture, Arts and Sciences Film Archive, and Germany's National Film Archive, (within its BundesArchiv (its national archives)).

9.3 ScreenSound and Wizard's Co-Production Initiative

In the late 1980's, ScreenSound engaged Wizard Information Systems for the maintenance of their two existing systems 'Flics' and 'Sonics'. Wizard's software experts, noting similarities between the two systems, recommended combining their functionalities into a single system. ScreenSound, while possessing a very firm idea of what sort of functionality they required from this combined system, could see that a purpose-built system would be able to address a number of functionality issues, not previously considered by any other product on the market. Wizard went on to win approval to work in partnership with ScreenSound for the project development which, when completed, was called AIMS - the forerunner to MAVIS.

In 1993, following a display at CeBIT, Wizard alerted ScreenSound to the fact that MAVIS was a unique product and that a potential global niche market (of archival and library institutions) existed, that might be interested in purchasing the product. At this stage the Archive's Council was also raising the question of possible sales, given the success of MAVIS within the Archive. Subsequently, Wizard and ScreenSound, set about commercialising and developing the product for sale to other users.

Despite its potential for international sales, ScreenSound's prime interest was still in the further development and improvement of MAVIS for its own internal use. As such, ScreenSound realised that international sales could be used to help fund the further development of MAVIS and that the input of international institutions, as they installed and worked with MAVIS, would act as a stimulant for further innovation of the product for its own use. An important side benefit to ScreenSound, and Wizard, is the continual access that they are provided to international archival research projects, and the opportunities which arise to onsell accompanying consultancy services - all of which assist in keeping them at the forefront of international research and development in this niche area.

As its prime interest in developing MAVIS was for its own internal use, ScreenSound opted to own the IPR and to control ongoing product development. Wizard's role in the partnership has extended from its original software development function, to one encompassing global sales and the marketing of MAVIS.

To date, the developmental funding cost of MAVIS, to ScreenSound, has been over \$1m, while the royalty stream to ScreenSound from international sales has been around \$300,000. Wizard claims that it

has spent an additional \$6m on the further development of MAVIS for international customers – which is development funding ScreenSound has not been required to contribute.

Wizard has gone on to use its experience with MAVIS and ScreenSound in other ways. For example, it has entered into a joint venture with Sony to extend the functionality of MAVIS into commercial television applications.

ScreenSound's and Wizard's collaborative partnership model provides a good example of how a Government Agency can be an agent of industry innovation, while deriving significant benefits for itself in the process. We attribute the success of this partnering strategy to:

- the development of a long term 'shared vision';
- clearly defining the benefits and/or outcomes which each party seeks to fulfil;
- defining the roles and areas of inter-dependence (e.g. ScreenSound's archiving expertise and Wizard's software development expertise) that work to keep both parties honest;
- the establishment of relationships at all levels within both organisations; and
- maintaining close contact (including physical proximity) between key decision-makers and innovators.

It is also apparent, in interviewing ScreenSound head, Ron Brent, and Wizard CEO, Tony Robey, that each possesses a deep respect for each other, each other's organisations, and the respective skills and capabilities that each organisation has to offer. It would seem these long established and trusted relationships appear as important as anything, in building truly collaborative and innovative partnerships.

9.31 The Screensound and Wizard Partnership for other developments

The close collaborative partnership between Wizard and ScreenSound, established through the MAVIS initiative, has led to the exploration of other innovative ventures.

In 1996, as a prelude to the Olympics a consortium composed of ScreenSound, Wizard, IBM, the ABC and others, conceived the idea of creating an iconic collection of Australiana photos and vignettes (mainly from the ScreenSound, Film Australia, and ABC archives) for the use of international broadcasters covering the Olympics. It was thought that this project would save broadcasters considerable time and expense, while improving the quality and breadth of their coverage, which would extend beyond the usual cliched portraits of Australia. However, they felt the greatest gains would be felt by Australian Tourism, as these same vignettes could be used in post Olympic tourism commercials that would have strong recall and association value with the successful Olympic experience.

For themselves, the consortium believed that the outcomes could be used effectively to generate a reasonable commercial return for the organisations involved, in addition to positive publicity. The main gain arising from the venture for ScreenSound would have been the development of the \$250,000 technology platform used to produce these vignettes which ScreenSound would have used to develop other opportunities.

Unfortunately, the venture failed, primarily, because the Government Agencies involved (the ABC, ScreenSound, Film Australia and the Tourism Commission) could not raise the \$100,000 risk capital required as their contribution to the venture. Other (lesser) reasons for its failure include the difficulty in getting support from the Tourism industry, and some complications in securing the rights to the complex mix of footage within the archives.

9.32 Wizard Information Systems view on its initiatives with ScreenSound, and with Government in general

Wizard CEO, and IT industry veteran, Tony Robey, provided some additional perspectives on its relationship with ScreenSound and the Government, in general.

On the positive side, Robey believes Government Agencies, such as ScreenSound, possess excellent assets and skill sets that often remain under-exploited. He cites, as an example, the excellent knowledge and enthusiasm of ScreenSound archival staff, that have been crucial to the development of MAVIS. He also believes that experts exist in most other cultural institutions who are 'world class' in their fields and could work more collaboratively with the commercial sector. Robey also believes that the tangible assets of these institutions, such as the archives, are valuable and, in many cases, appreciating in both cultural and commercial value. As such, they often represent an important, underdeveloped opportunity for exploitation.

However, Robey cites three major problems in driving innovative partnerships with Government Agencies (at most levels): the Government's approach to risk; its procurement strategies; and its approach to IPR.

Robey believes that while "many things are not done in the name of risk," the Government "rarely ever looks at the cost of *not* doing something." The case of the Olympics (quoted above) provides one such example.

In particular, he believes this approach to risk poses a major problem for cultural institutions who possess significant assets (e.g. a film archive, or a lending collection) the value of which depends on what is done with the asset. (For example, if a lending collection remains under-utilised because it is not digitised, or not online, then its value may decrease.) However, because Government funding practices are generally based on maintaining the asset in its current state, these collections often remain unutilised and subject to depreciation. In contrast, Robey notes that he could not imagine any commercial television station, not continually striving to protect (and grow) the value of its multimillion dollar content assets.

Robey believes that two changes must occur to ensure that necessary funding is obtained to protect and grow the value of our cultural institution's assets.

Firstly the funding of cultural assets should be based on the cost required to protect intangible asset values, and not based on the current Government accounting approach that focuses on capital allocation tied to the depreciation of tangible asset values. Secondly, funding could arise from greater entrepreneurial exploitation of the assets, such as that posed by the Olympic opportunity. This latter approach would require the involved Agencies to adopt a riskier position and to have available some risk capital.

In relation to another issue, unrelated to ScreenSound, Robey believes that Government Procurement Strategies must be addressed, as the trend towards mechanistic, risk-averse and non-qualitative procurement processes eventually kills off any entrepreneurial or innovative approaches made by the private sector towards Government. He notes that nearly every speculative approach towards a collaborative opportunity is now turned into a 'tender process' that has as its prime incentives "risk reduction for Government" and maximising price competition for a standardised product or service. Such a process does not, generally, lead to innovative solutions, and, in fact, most often has the reverse effect.

Another issue for Robey is the overall cost of the tendering process. He notes examples in which the total cost of running the tender process, along with the cost of submitting tenders, has actually exceeded the contract value of the project. Obviously, such a practice has an overall negative effect on the economy.

Robey's third issue has to do with IPR.

He notes that Government, by default, tend to retain the IPR rights to any developments which they sponsor, often spurred on by the legal advice which they receive from their solicitors. This situation imposes constraints on the developing organisation who loses the benefits derived from the use, reuse and marketing of the content.

In the case of MAVIS, Robey believes, the IPR ownership issues have proved to act adversely to both parties. Firstly, as the Government is unable to exploit IPR opportunities directly, full commercial promotion of the product is potentially missed. Secondly, Wizard loses because the ownership of IPR for MAVIS by a 'third-party' has enhanced the difficulty of attracting overseas clients as, inevitably, the third

party has the power to make final product decisions and changes. Although it is more a matter of the client's perception, than reality, that this will impose constraints on the client, the drawbacks manifest themselves nevertheless (e.g. Broadcasters refuse to buy MAVIS because of ScreenSound's ownership of the IPR, and control of product definition). From ScreenSound's perspective the higher priority is to ensure the software continues to serve the Archive, with the opportunities for extended sales being secondary.

Perhaps a final salient point, when considering the success of the ScreenSound and Wizard relationship in the development of MAVIS, is that Robey believes that, if such an opportunity were to arise today, it would not get off the ground. He believes the risk-averse nature of Government, its tendering practices, and the loss of expertise within our institutions would all conspire to prevent such a development from recurring.