

Towards a National Digital Strategy

Issues Discussion Paper

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Nordicity



About Nordicity

Nordicity is a leading international consulting firm specializing in economic and financial analysis; business strategy solutions; and, public policy and regulatory affairs. Our clients are public and private organizations in the global creative and communications industries. Nordicity's combination of extensive experience, functional expertise and international presence enables us to understand our client needs, apply innovative analysis and provide clear effective recommendations.

Nordicity was founded in Ottawa, Canada in 1979. We now have offices in London, United Kingdom; Toronto, Canada; and Ottawa; and clients across North America, the United Kingdom, Africa, and Asia.

Nordicity celebrates 30 years of providing solutions to creative and communications industries around the world.

Credits

Principal Author: Peter Lyman, Senior Partner

Contributing Author: Kristian Roberts, Consultant

Editorial Support: Stuart Jack, Partner; Kurt Eby, Senior Consultant; Akhaji Zakiya, Senior Consultant

Contributing Researchers: Matthew Mahoney, Analyst, Jessica Thorp, Associate Analyst

Dedication

This discussion paper is dedicated to two former Nordicity consultants who are no longer with us – **Tom Grandy**, a former Partner who championed the development of CANARIE and SchoolNet and many other ICT infrastructure projects; and **Elan Gillespie**, a former Senior Consultant, who helped develop many new creative and business applications of digital infrastructure, including Aboriginal Peoples Network, interactive television, and satellite communications services for Northern communities.

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1. Preamble

On its own volition, Nordicity is coming forward at this time with an issues discussion paper that calls for the development of a National Digital Strategy in Canada. We believe it is very important and timely for a major federal initiative to develop an integrated national digital strategy – as opposed to addressing issues in a more compartmentalized fashion.

1.1 Origin, Purpose and Outline of the Issues Discussion Paper

Countries around the world are recognizing the need for a national digital strategy, but Canada does not yet have its own. The release of *Digital Britain* this past June in the UK draws attention to a need for Canada to have its own vision and integrated policy. Canada lacks a digital strategy that: recognizes the huge impact of digital technologies on the workplace and society; facilitates the creation and distribution of content on digital platforms; and provides the appropriate incentives to ensure universal accessibility to broadband and digital TV services.

This issues discussion paper argues for a comprehensive approach rather than operating on piece meal basis with no national digital strategy framework. Digital technologies are bringing about transformative change in society and we believe the issues arising from those developments should be looked at comprehensively. There are many linkages among the issues of skills development, cultural industries, and broadband infrastructure. These issues should be resolved in the context of a more integrated nationally coordinated strategy.

Nordicity's varied consulting practice in cultural and communications policy in Canada and abroad,¹ gives us exposure to a variety of perspectives that have informed this paper. Since the preparation of this paper is entirely sponsored by Nordicity, it is independent of any particular policy stakeholders. Our objective is to stimulate discussion and engage key stakeholders in a broader debate - and so frame how the issues are addressed. Since we fully realize that there are many perspectives to consider, we seek feedback which may lead Nordicity to issue a release 2.0 that further shapes the issues.

We would like to share this paper with colleagues in Canadian public agencies and private stakeholders in the creative and communications industries. While aimed at national

¹ A Nordicity office operating in the United Kingdom has provided insight as to how one of the world's leading creative jurisdictions has come to grips with its digital transition.

institutions, equally important are provincial authorities who are addressing many of the same issues. In fact, there are many regional and municipal initiatives that try to galvanize clusters of creative and innovative activity. It is vital to involve them all in this debate. While the federal government should take charge, a consultation process should be designed that recognizes the importance of provincial, regional, and municipal initiatives and interests.

In this issues discussion paper, we put forward the rationale for a national digital strategy. We identify a preliminary list of issues that stem from digital technologies' impact on society and the workplace, cultural industries, and access to broadband networks. To situate Canada's potential approach in a global context, we describe initiatives of other countries that have addressed similar issues. Finally, we propose a specific institutional design for implementing the development of a national digital strategy.

1.2 Rationale for a National Digital Strategy

In part, the rationale for a national digital strategy lies in the positions and statements emerging from key stakeholders. There is a growing chorus calling for a national digital strategy, but each stakeholder has a different slant on what it should contain. In general, we find that the viewpoints of most represent only part of the overall set of issues to address.

In the federal budget for 2009, *Canada's Economic Action Plan*, funding was allocated to areas relevant to a national digital strategy. The budget addressed some of the elements of a national digital strategy, including investments in broadband infrastructure, education, and the cultural industries.

After the Canada 3.0 Conference – held in June 2009 in Stratford, Ontario – federal Industry Canada Minister, Tony Clement, offered more specific priorities for a digital Canada: copyright reform; new privacy legislation; broadband extension to undeserved areas; and determining the parameters of the upcoming spectrum auction.² Again, these issues are not the whole story.

The Information Technology Association of Canada (ITAC) understands the importance of digital media to the future of the Canadian economy. In its 2008/2009 Annual Review, ITAC states that "... as business restructures, ICT (Information and Communications Technologies) will drive much of the change. Countries that understand this and strategize accordingly will do much better than those who miss this crucial shift." ITAC, in a June 2009 strategy paper,

² *Clement vows to revisit copyright*, Playback, July 6, 2009
<http://www.playbackonline.ca/articles/magazine/20090706/copyright.html?word=broadband> .²

went on to suggest that to achieve a strong leadership position in the global digital economy Canada would need to address issues of talent, infrastructure, innovation and technical adoption, taxation, access to capital, and regulation. The group also concluded that these issues should be addressed in the context of a national *ICT* strategy.³ While ITAC's approach mirrors in some ways that taken by this discussion paper, the "digital net" should be cast wider than in ITAC's vision to include the content side of the equation – the cultural industries – which are deeply affected by digital technologies.

Among cultural industries stakeholders several prominent organizations have called for the coordination of decisions affecting the digital transformation. In addressing the Banff International TV Festival and Canada 3.0 conferences, CRTC Chairman Konrad von Finkenstein made the direct appeal for a national digital strategy. In fact, after a lengthy public hearing on the subject of regulating new media, the resulting CRTC policy decision recommended that a national strategy was needed to sort out broader issues that were beyond the scope of the Commission.⁴

Another cultural stakeholder that has expressed an interest in the impact of digital technologies on the cultural sector in Canada is the Cultural Human Resources Council (CHRC). One CHRC report identifies training gaps caused by the digital transition in Canada's cultural industries. Another lays out a technology roadmap that assists content producers in anticipating future market demands.⁵ In this way, the CHRC begins to knit together the human capital (training), cultural (content creation) and infrastructural (technology) issues.

For their part, provinces seem to appreciate the need for a digital strategy at the sub-national level as well. For example, Ontario's Innovation Agenda recognized in its 2008 budget the linkages between R&D, innovation, and the creative industries. It was followed up in the 2009 spring's Ontario budget with a specific pilot program to stimulate more "R&D" in the creative industries,⁶ and the announcement of an upcoming study of potential demand for an ultra

³ ITAC, *Upping our Game: A National ICT Strategy for Canada*. June 2009.

⁴ The chair cited NFB head Tom Perlmutter who had called for a national strategy that would include: more funds to be allocated to the creation of original Canadian digital media content, greater expansion of existing programming into multi-platform content, additional training needs to be able to traditional content producers in order to ensure that they are able to adapt, culturally relevant heritage collections such as those held by the NFB should be digitized in their entirety and made available to all Canadians online. (Tom Perlmutter, National Film Board of Canada, "Broadcasting in the New Media Environment," presented before the CRTC on February 25, 2009.)

⁵ See CHRC, *Training Gaps Analysis: Interactive Media Producers*, (Prepared by kisquared), February 2009, and CHRC, *Digital Media Content Creation Technology Roadmap* (Prepared by the Centre for Public Management), January 2009.

⁶ The purpose of a new \$10 million pilot program is to "support the development of intellectual property by Ontario-based companies in the screen-based sector" (*Ontario Budget 2009*, pg 29).

broadband (UBB) infrastructure investment.⁷ In fact, because provincial motivation for supporting the cultural industries has a pronounced economic development rationale, there are explicit attempts to link “creative industries” with technology-based development.⁸

There is also action at the regional and local level, based on the positive economic benefits from the development of industrial clusters. Whether focused on technology and/or the creative industries, municipalities have banded together in regional “clusters” to promote their development, and so become digital strategy stakeholders.⁹

As illustrated by the brief discussion above, stakeholders from different perspectives expound the need for a national digital strategy and frame the issues from their point of view. This issues discussion paper attempts to sort out the different issues, and identify what a national digital strategy should include and what not to include. We group the relevant issues in three parts: (i) an overarching societal need for **digital literacy** and **skills** in the modern world, (ii) the need for a transformation of our support for the creation and distribution of **cultural content**, and (iii) the need for appropriate investment in our broadband and communications **infrastructure** to provide Canadians **access to broadband services**.

2. Digital Literacy and Skills Issues

Among the broad societal issues arising from the growing use of digital technologies in communications and in the creation of content and services are those related to the development of human capital – to better function in the workplace and as citizens in general. The societal issues raised are grouped in the following three areas:

- Digital literacy and creativity;
- Investment in workplace skills;
- Citizen engagement with public and private sector service providers.

⁷ Study on Ultra Broadband Infrastructure, Services, Usage and Needs in Ontario Ministry of Economic Development and Trade, August 2009.

⁸ However, there may be another issue; while “Digital Media” is often identified as a priority in provincial initiatives, it can be lumped together with clean technologies, bio-medical innovations and other more R&D-focused disciplines.

⁹ One good example of a regional cluster that facilitates innovation is Canada’s “Technology Triangle” in south western Ontario comprising Waterloo, Kitchener and Cambridge. Other examples of such clusters include the content creation cluster centred in Toronto, the aerospace cluster in Quebec, and the cleantech and digital media clusters in British Columbia.

The following subsections outline how each of these issue areas relates to the pertinence of creating a national digital strategy.

2.1 Digital Literacy and Creativity

It is obvious to anyone that digital proficiency at some basic level is required in many aspects of everyday living.¹⁰ Digital tools such as the Internet, Google, Facebook, iPhone (or RIM's Bold), iPod or GPS are becoming the basic level of digital literacy. Digital communications represent a transformative force reshaping society in a way not felt since the industrial revolution. It is the new steel that made possible the manufacture of new kinds of products. Digital literacy and digital tools are essential at work, at play, to access everyday services, and to stay in touch.

The digital world is one of connectivity – at the office, at home, via mobile phone. Digital technologies are increasingly being used to create online communities, build new social media and to share user-generated content. These new avenues for social change extend Canada's borders, bringing Canada and the world together in ways unimaginable just one generation ago. This transformation has given creative individuals a more effective means of collaborating on activities and projects – be they artistic, business, public service or other.¹¹

Digital tools are also the currency of creativity that leads to new intellectual property, whether expressed in copyrightable works or patents from invention. They are highly relevant to the development of a more creative society. In this way, innovative software tools and web-based applications for connectivity and productivity are critical to innovation and the development of a knowledge economy.

A national digital strategy should acknowledge the central role of digital tools and the consequent need for continuous learning and adopting new ways in which society works and organizes itself. This need goes beyond the specific industries of communications and culture, affecting society in the complete range of social and economic activity. Thus, one of the broad issues to be addressed is the role of public institutions in development and fostering of digital literacy and creativity.

¹⁰ Digital literacy can be viewed as a subset of general computer or IT literacy; however, in this context it focuses on the use of digital communications and the creation and distribution of content and services on digital platforms.

¹¹ Peter Nicholson, President of the Council of Canadian Academies, recently wrote about the "Information-rich and the attention-poor" and the demands of a "24 hour knowledge cycle." He observes that "knowledge is evolving from a 'stock' to a 'flow' because it is constantly being updated as a result of the three technologies that drive the information revolution – computation, data transmission and data storage. See page A21, September 12, 2009 in the *Globe and Mail*.

2.2 Investment in Human Capital

Another societal dimension of a national digital strategy is the human resources implication for Canadian public and business organizations. Digital technologies are quite disruptive to many sectors, and in particular industries that are based on intellectual property (IP) like the cultural industries. New methods of production, outsourcing, marketing, and distribution are enabled by digital technologies. Jobs in the service as well as in the manufacturing industries will disappear or be transformed; new skills will be required. Changes in needs are occurring very rapidly so that it is difficult for educational institutions to keep up with new workplace demands.

To be competitive in a global economy, Canada needs a range of measures to develop the skills that are necessary for Canadians to succeed in a digital workplace. These measures incorporate workforce preparation through training and education – and point to the ways in which educational and training services can be improved. In addition to upgrading the skills of existing professionals, there are a range of other human capital development issues, such as matching jobs with needs, more effective recruitment processes, continuous learning within the digitally intensive organizations, and the mentoring and career guidance of the workforce.

In the cultural sector existing practitioners require the right mix of professional development activities and workplace opportunities to adapt continuously in a changing digital media environment. Even formal education in digital media may not necessarily be sufficient to break into new digital media related fields. Development of the digital economy may be moving too fast for a perfect alignment of education with workplace needs. Therefore, the challenge is to train new workforce entrants to thrive in work environments with evolving skills needs and become more entrepreneurial about their career development.

In the 2009 budget the federal government has dedicated up to \$2 billion to repair, retrofit and expand facilities at post-secondary institutions.¹² The federal government also allocated almost \$2 billion for training and human resources development in the same year. At issue,

¹² At the municipal level, Toronto Mayor David Miller joined Microsoft Canada president Eric Gales and representatives from the Toronto Public Library, Tropicana Community Services and Centennial College to officially launch the second 'Pro Tech Media Centre' in Scarborough at the Toronto Public Library. The Pro Tech Media Centre provides free access to state-of-the-art technology including digital arts and Microsoft curricula to introduce youth to potential careers in new media while providing computer literacy skills and opportunities for creative self-expression. The facility addresses what's seen as a digital divide between technologically empowered communities in the city. This extension of both skills and infrastructure to underprivileged communities begins to show the utility in having an integrated digital strategy.

then, is how the digital impact on the education, training, and development of the human capital should be integrated into a national digital strategy. At the very least, addressing the human resources impact on cultural and communications sectors should be a fundamental part of the development of a national digital strategy.

2.3 Citizen Engagement with Public and Private Sector Service Providers

In the current climate of massive public debt, public institutions will be called on to innovate to deliver services more efficiently – largely abetted by digital technologies. In turn the citizenry will need the digital skills and literacy to engage with government whose services and communication will be undergoing their own transformation. The watershed change has been the shift from a largely office, phone, and mail contact system to an on-line interactive one. The advent of eHealth solutions, online taxation remittance, and other ‘self-serve’ government services obliges citizens become adept at dealing with public services in this way. Public services are increasingly accessible to the average citizen – as long as they have access to the broadband networks and the skills to participate digitally. Similarly, private sector services are increasingly provided online – from the virtual grocery stores to financial transactions to want ads.

The information on which citizens base their political opinions is also undergoing a similar evolution. In the world of YouTube, online newspapers and magazines, and Twitter, news is increasingly what we make of it. Canadians – certainly younger ones - are relying less than before on broadcast and print media to tell us about the world. Increased digital literacy is thereby also spawning new habits to which conventional media have to adjust.

At the same time, governments around the world (e.g. www.whitehouse.gov), are engaging their electorates to an extent not heard of before. While town hall meetings are nothing particularly new, digital technologies extend this conversation to far wider audience.¹³ The prospect of online voting could also induce a profound change to the democratic process.¹⁴

¹³ What participants are discussing is not necessarily enlightening, however. Some of the most popular topics in the Obama administration’s electronic democracy have included whether pot should be legalized and whether President Obama was really born in the US.

¹⁴ Elections Canada recently released a report that says it will push to implement online registration of voters.¹⁴ And it wants parliamentary approval to conduct an electronic voting test-run in a by-election by 2013. The report comes on the heels of the 2008 federal election that saw a 58.8% voter turnout, the worst-ever in Canadian history. While touch-screen voting systems have had some effect in reducing spoiled ballots and accelerated the counting process, some municipalities such as Markham have experimented using Internet voting system. It produced a 48% increase in voter turnout, from 28% in 2003 to 37.6% in 2006.¹⁴

The evolution of a more informed, more engaged electorate – which can also deal with government and public services in an interactive way - is key to the future operation of democratic institutions and delivery of public services. A national digital strategy should address how new digital communication and social media tools can be deployed to strengthen government service and the political process.

2.4 Digital Literacy and Skills Issues in a National Digital Strategy

Based on the discussion about the societal of digital literacy and the need for skills upgrading the following issues are proposed as worthy of consideration in the scope of a national digital strategy:

- Are educational and training institutions responding to the task of enabling Canadians with the appropriate tools of digital literacy for the workforce and daily life?
- What measures are available to help the existing workforce in the cultural and communications industries transition to new digital platforms?
- How should governments adopt digital delivery and communications solutions to improve their productivity and engage the increasingly digitally literate citizenry?

3. Cultural Industries Issues

The cultural industries face challenges in making a successful transition to digital platforms, or even survive such a transition. (See Table 1 which seeks to clarify the meaning of commonly used terms to describe this sector). Some common challenges for many of the cultural industries include diminished regulatory protection and limited fiscal room for new government expenditures.

Table 1 - Some terminology clarifications

| Terminology | Definition |
|--|---|
| “Cultural industries” or “cultural media industries” | A convention to capture the sectors that are included in the longstanding government goal of strengthening Canadian culture. These industries include: TV and film production, book publishing, magazine publishing, music, interactive media including video games, and radio and TV broadcasting. |
| “Entertainment and media industries” | Another descriptor for cultural industries but with a more commercial connotation. |
| “Digital media” | Cultural industries in a digital state together with supporting technological infrastructure; in turn the same digital media technologies can be deployed in industries other than culture. |

The federal government has a variety of regulatory policies, tax incentives, legislative provisions, crown corporations, and subsidy programs to support cultural industries. The cultural industries issues arising from the new digital environment are discussed in the following four areas:

- Challenges and opportunities in new digital platforms;
- Lack of capital to exploit intellectual property (IP);
- Role of private and public broadcasting;
- Modernization of copyright legislation.

The following subsections outline how each of these issue areas relates to the consideration of a national digital strategy.

3.1 The Challenges and Opportunities of New Digital Platforms

Business models in cultural industries are changing rapidly due to the growing consumption of content via the Internet. Advertising, promotion, and marketing are increasingly being pushed online, meaning that the traditional source of revenue for many cultural industries is undergoing a substantial transition.

Conventional TV broadcasters, for instance, faced significant declines in advertising in critical product categories when the automotive and financial services, among other sectors, retrenched massively in the current recession. While much of this advertising may well return, marketers will most likely continue to move to newer platforms. The repercussions

ripple through the **TV production sector** in the form of reduced commitments to new projects (“greenlighting”), and lower programming license fees offered to producers by broadcasters domestically and abroad.

The same advertising declines affect print media which also have to compete with digital versions of traditional revenue sources, such as classifieds (e.g. free online listing services like Craigslist), or by editorial content from electronic versions of other foreign and domestic editions. **Newspapers** and **magazines** are being forced online. They have to operate with reduced staff and budgets. Subscription revenues are not substantial enough to support the print industry on their own, so newspapers and magazines have to explore alternative business models.¹⁵

Furthermore, cultural producers in **music, movies, and books** who sell their product have either been impacted by illegal electronic access, or have seen erosion of their market value. Besides the well-known travails of the music recording industry (though not necessarily the music industry itself), online versions even when acquired legally are sold at lower cost than their physical product. Thus, it has been argued that such “all-you-can-eat” online access to cultural content is effectively debasing the value of all content.

Games developers are more impervious to new platforms in one way because they are built on electronic interactivity inherent in the major console platforms. Yet, the growth area in games is on-line, or via handheld applications, linked to other players via wired and wireless broadband networks.

Content distributors must now compete with free versions of what seem like similar product. Also, the presumption that digital versions of cultural content are somehow cheaper to make poses a challenge for some creative industries. For example, books available in electronic form are typically priced at \$9.99, well below physical book prices, even though they bear similar levels of development, editing and marketing costs. These new challenges force adaptation in production, marketing, and distribution.

Because audiences now consume media electronically, there is a growing expectation that all content should be cross-platform and available on-demand from the cable digital box, online broadband, or via mobile which operate at increasingly higher data rates. Cable companies, broadcasters, magazines, and content producers are painfully aware that in order to retain their existing customer bases and draw in new users, they must reinvent their existing

¹⁵ In a study sponsored by Canadian Heritage that is nearing completion, Nordicity charts the emergence of digital publications in Canada as well as a number of business models involved.

business models. That means delivering value-added services, such as superior quality content and convenience (in competition to what is available through illegal downloading). They have to devise new business models for a consumer base that has grown accustomed to free content readily available online for downloading or streaming.

A national digital strategy should take these challenges into account and find ways to stimulate Canadian content for the new digital distribution platforms. A strategy that is just focused on opening up broadband service to everyone, or capitalizing on the growth of the digital infrastructure, misses the corresponding link to content and the need to create incentives for Canadian content developers.

3.2 Lack of Capital to Exploit Intellectual Property (IP)

Canadians have significant talent and compelling stories to tell, and should therefore be able to compete at with foreign content at home as well as in global markets. However, many cultural producers in Canada are undercapitalized; they are often compelled to sell their IP rights just to get their products made. Many are not in a position to retain and exploit their IP rights by earning revenues from foreign markets and other digital platforms. In the convergent world of media, where a feature film can quickly become an online game or an electronically distributed book property, ownership of these ancillary rights is increasingly important.

A national digital strategy should recognize and address this financial predicament, and start re-orienting incentive systems to develop companies that can develop and grow the IP rights that they create. Current support mechanisms tend to drive the creation, production, and distribution of content – as well as employment in doing so. Though there is recognition of the need to support content production companies engaged in creating, producing, and distributing content, most of the support incentives are primarily aimed at projects not the growth of companies. A national digital strategy that considers the importance of content development needs to take a fresh and more comprehensive look at the various support programs for the cultural sector. It should address how to facilitate changes in these measures that will support sustainable companies rather than simply content creation for established distribution channels.

The ability to develop and exploit one's own IP on globally will help to define Canada's comparative advantage. Thus, a national digital strategy should address this issue through a review of the support systems for Canadian content. Such a review should look for incentives

designed to encourage Canadians to invest in their IP, and so gain the fruits of its exploitation in foreign markets and other digital platforms.

3.3 Role of Private and Public Broadcasting

Role of private broadcasting

Through a series of policy and license renewal hearings, the CRTC has been addressing the regulatory issues around commercial broadcasting. The issue of further payments to commercial broadcasters from broadcast distribution undertakings (BDUs), known as “fee for carriage”, has been the subject of two hearings.¹⁶ This issue, as well as a possible restructuring of programming obligations via broadcasting groups, is being engaged in a current regulatory policy hearing (PN 2009-411). The analog switch over to digital transmission has also been put on the agenda in this hearing, framed in the context of access to digital TV services for all Canadians. Terms of trade between independent producers and broadcasters constitute additional important issues to go before the regulator if the broadcasters and independent producers cannot come to an agreement beforehand.

The CRTC continues to make important regulatory decisions affecting the content production sectors and their financing for a broadcast system which is undergoing fundamental changes. The viability of general interest broadcasting is threatened and even doubtful in small markets at least in the manner in which it is organized at present. At issue, then, is whether a national digital strategy can provide a longer term strategic perspective that could provide policy guidance for the CRTC.

Given the trend toward more content accessibility via video on demand (VOD), downloading, streaming, etc., the broadcasters are not the only important stakeholders in the business of making and distributing content. Broadcasting distributors like cable operators and satellite providers are regulated as “broadcasting distribution undertakings”, but Internet Service Providers (ISPs) have so far been exempted from regulation (as noted earlier). Their future roles can hardly be avoided as a subject in a national digital strategy.

The Canadian broadcasting system operates on the dual system assumption, whereby private broadcasters as well as public broadcasters are expected to contribute to the objectives of the *Broadcasting Act*. Given the shift into convergent platforms, perhaps it is timely to examine this fundamental assumption – in the context of both broadcasting and content distribution.

¹⁶ The CRTC has twice denied broadcasters’ request for a ‘fee-for-carriage’ (see CRTC PN 2007-53 and Decision 2008-100).

Role and Funding of the CBC/Radio Canada

Since the CBC is such a large component of federal support for the cultural sector for both French and English communities, it has been the subject of many different reviews over the decades. Now, it is important to consider its role and funding in the context of a national digital strategy.

The CBC has been very active in adopting digital technologies. From its online news portal (cbcnews.ca) to its use of podcasting, online radio, and streaming video, the CBC has made several forays into interactive media. As the digital world transforms Canada, the CBC should be part of any discussion on the content and its distribution. *The Broadcasting Act* says that the CBC “should provide radio and television services incorporating a wide range of programming that informs, enlightens and entertains.” Clearly, the 1991 revisions to the Act did not predict the onset of digital technologies, nor the ways they would impact Canadians’ media consumption.

Nowhere can a well-defined role for a public service broadcaster (PSB) be seen more clearly than with the BBC in the UK. Similar to that of the CBC, the BBC’s core mandate is to “inform, educate and entertain.” However, the particulars of that mandate are systematically reviewed to ensure that – among other things – it remains relevant to the media consumption habits of the British people.¹⁷ Indeed, since 2003 the UK Office of Communications (Ofcom) has conducted two separate reviews of the role of the PSBs in the UK and has most recently concluded that “digital technologies are creating the potential for new content and services that are more participative, social and interactive than traditional broadcast content.”¹⁸ Most recently, there have been calls for some form of downsizing of the BBC, and a redistribution of their revenue source – TV set licence fees.¹⁹

¹⁷ “Entertainment ‘vital’ to BBC’s future, says white paper,” *The Guardian*, Tuesday March 14, 2006.]

¹⁸ *Ofcom’s Second Public Service Broadcasting Review: Putting Viewers First*, Ofcom, January 2009, pgs 3-5]. The review goes on to suggest that because of this momentous opportunity a new approach is needed to the provision of public service broadcasting, one that balances the opportunities of digital technology, but that does not unduly harm commercial broadcasters.

¹⁹ As part of the *Digital Britain* initiative, a proposal has been made to set aside a part of the TV licence fee to pay for a replacement of private regional programming and commercial children’s programming. The proposed move is, unsurprisingly, meeting resistance from the BBC Trust (the organization charged with ensuring value-for-money in the BBC’s broadcasting operations) and other UK cultural industry organization (e.g. the Musicians’ Union) (See: <http://www.guardian.co.uk/media/2009/sep/09/michael-lyons-open-letter-bbc>)

Public broadcasters in all countries are struggling with their roles in the multiple platform age, and many face funding uncertainties. Indeed, the ad-dependent CBC has suffered along with commercial broadcasters in the TV ad sales downturn. The CBC's funding base, which depends largely on Parliamentary appropriations, is an annual uncertainty and has never been increased to fund experimentation with new distribution platforms. A national digital strategy could include a review of the role of Canada's national PSB in that context, and address the funding issues that arise from the current means of financing the CBC.

3.4 Modernization of Copyright Legislation

A related issue for cultural content producers is Canada's intention to strengthen the legislative base for protecting the copyright that underpins the exploitation of IP in a digital world. Canada lacks modern copyright legislation – the current *Copyright Act* does not even mention electronic distribution. While there is a consultation process underway on copyright reform, it is not being undertaken within an overall national digital strategy.²⁰

The controversy surrounding recent attempts to articulate a Canadian approach to copyright reform shows the need for modernizing the underlying legislation through the perspective of Canadian needs as well as international obligations.²¹ There is pressure from multinational media companies to introduce copyright measures to protect their interests; facilitating trade in IP ultimately helps Canadian content producers, so reform should be examined from that perspective as well. There is a general need for Canadian IP rights holders to maximize the benefits from their investment, and more effective copyright protection could be important in the context of that objective.

While the overall concern is the appropriate balance between users and creators, copyright reform should be reviewed in the development of a national digital strategy, i.e. how it meets criteria such as fostering innovation and sustainable companies, facilitation of trade and export, protection of the integrity of copyright ownership, and extension of broadband access.

²⁰ Canada is also currently involved in drafting the Anti-Counterfeiting Trade Agreement (ACTA) which addresses intellectual property piracy and "aims to establish new global standards for the enforcement of intellectual property rights (IPR) to more effectively combat the increasingly prolific trade in counterfeit and pirated goods."

²¹ *Think tank's approach to Hollywood: Copy that*, The Globe and Mail, May 28, 2009.

3.5 Cultural Industries' Issues for a National Digital Strategy

Based on the discussion about cultural industries, the following issues are proposed as within the scope of a national digital strategy:

- What changes should be made in cultural policy to account for the effects of digital technologies on cultural industries?
- How should support measures be reviewed to ensure they are flexible enough to accommodate the adaptation of cultural industries to digital platforms?
- How should financial incentives be reoriented to help make companies in cultural industries more sustainable?
- What is the role of private broadcasting and distribution networks in the creation and dissemination of Canadian content in a converged world?
- How does CBC's mandate fit into national digital strategy objectives, and what is the best way to resource the CBC to achieve those objectives?
- In what ways would copyright reform support content development, innovation, and other aspects of a national digital strategy?

4. Infrastructure Development and Technology Issues

A modern society needs a first-class broadband infrastructure to empower its citizens with access to knowledge, services, and employment opportunities. Canada has a first-rate communications networks infrastructure and innovative telecom suppliers that bring products to the world. Yet we have slipped to 10th place (from 2nd) in broadband accessibility over the last 6 years.²² A national digital strategy needs to address the infrastructure and access issues in four areas:

- Access to broadband services;
- Access to digital television services;
- Innovation in digital media – technology, content, and services; and,
- Sources of financing for infrastructure and content.

²² OECD Broadband Statistics, "OECD Broadband subscribers per 100 inhabitants, by technology, December 2008", available at <http://www.oecd.org/sti/ict/broadband>

The following subsections outline how each of these issue areas relates to the consideration of a national digital strategy.

4.1 Access to Broadband Services

Canadians have long supported a policy of universal access to communications infrastructure of one type or another. However, exactly what that infrastructure is has evolved over time. In the past, extension of “plain ordinary telephone service” (POTS) was sufficient to meet the demands of Canadian consumers and companies. As the demand for information increased throughout the 20th century, so did the demand for technical infrastructure. In one example, Industry Canada established SchoolNet in 1995 in an effort to promote the effective use of ICT in Canadian libraries and schools. The program, which administered a number of sub-programs including LibraryNet and Canada’s Digital Collection, was discontinued in 2005 for a number of reasons, including the fact that its technical architecture was no longer capable of delivering the expected volume of content.

Over that same period of time, Canadians at large shifted from being users of dial-up Internet connections to being largely broadband subscribers. In 1997, the OECD estimated that 21,000 broadband connections existed in Canada. By June 2008, that number had reached over 9.1 million and continues to grow.²³ At the same time, the meaning of ‘broadband’ is changing with the threshold for ‘high-speed’ service moving progressively higher.²⁴ However, Canadian standards for high-speed broadband lag significantly behind other OECD countries – notably those in Scandinavia and the Pacific Rim. Korea, Japan and Singapore are leading the development of ultra high broadband (UBB) as essential infrastructure for a digital economy.

In Canada, the Ontario Ministry of Economic Development and Trade (MEDT) has recognized that “new and existing SMEs will require advanced, ultra high-speed broadband (i.e. ranging from a minimum bandwidth per user of 10 Mbps to 100 Mbps or more in either direction) to support their growth and ensure their competitiveness in the new knowledge economy.” Further, many sectors where SMEs predominate (e.g. digital media, gaming) are dependent on consumers having access to ultra high-speed broadband.

²³ OECD *Communications Outlooks: 2009*, Organization of Economic Cooperation and Development, p. 128.

²⁴ Indeed, there is no internationally recognized standard for broadband speeds. In 2006, the OECD defined broadband speed as more than 2.0 Mbps of download speed and more than 256 kbps of upload speed. Recently, the US Federal Communications Commission has defined the same technology as being networks with speeds greater than 786kbps.

As such, 'extending broadband connections' must account for this constantly shifting technical ground and the differing needs of various economic sectors. Therefore, it is more important to establish a process for setting and revising targets for the ongoing upgrading of broadband services, rather than freeze a target around a particular speed objective. Targets should be for a short duration and changed according to the needs of the various sectors and in line with advancing technology.

The availability of appropriate broadband connections is only one aspect of ensuring a national digital infrastructure. Broadband connections and related digital technologies should become more available to lower-income and other disadvantaged Canadians.²⁵ Ensuring that all citizens can afford broadband connectivity should be part of national digital strategy. Alberta's SuperNet provides one example of a potential broadband access model. Not only has the SuperNet connected 429 Alberta communities, and thousands of government and educational facilities, but the open-access resale service model has fostered substantial competition in the ISP market.

A particular technological element in considering access goals for Canada's broadband infrastructure is the fast developing mobile wireless infrastructure. Indeed, as digital technologies move from the office desk to our pockets, so too must the focus of policymakers. Like wired broadband connections, wireless connectivity is largely urban and (for a variety of technical reasons) is still more expensive than desk-top connectivity.²⁶ Greater competition in pricing and new product introduction should result from the start-up of new wireless operators following the auctioning of advanced wireless services spectrum in 2008.

The adoption of a utility approach to broadband infrastructure would enable ISPs to have dedicated bandwidth. Some would argue that there would be benefits from these service providers competing more effectively with facilities-based incumbents on price, service package and quality of service. While such approaches will be considered by the CRTC in a

²⁵ One example of how this accessibility might be achieved is Toronto's 'Pro Tech Media Centres. These centres, funded jointly by the City of Toronto and Microsoft, offer digital arts and technology skills training in Toronto's lower income neighbourhoods (Eglinton East-Kennedy Park, Malvern and Weston-Mount Dennis). They are designed to introduce youth to potential careers in new media while providing computer literacy skills and creating opportunities for self-expression.

²⁶ Canada's wireless charges are also relatively high for a number of reasons. The Organization of Economic Cooperation and Development's *Communications Outlook: 2009* ranks Canadian mobile phone rates among the highest of Western countries: ranking 28th out of 30 for 'medium-use' (780 out-going voice minutes per year); and ranking 19th for 'high-use' (1680 out-going voice minutes per year). (See OECD, *Communications Outlook 2009*, pgs 274-278)

public hearing in November 2009,²⁷ the overall policy approach should become part of the national digital strategy debate. Technology is driving new capabilities and thus raises issues about what access should be universal, and how the rates can be made affordable to the more disadvantaged Canadians.

Net neutrality

If Canada is to extend high-speed broadband connections to the far reaches of Canada, attention should be paid to fair treatment of users of those connections. Content and applications flowing over those connections should be treated in a fair manner, yet that does not mean that steps should not be taken to discourage those who clog up the networks. Therefore, the twin issues of net neutrality and traffic shaping must also be addressed in the discussion surrounding broadband access.

Facilities-based ISPs, as well as some non facilities-based ISPs, have argued for the need to manage egregious usage by very high bandwidth users. They seek to ensure the integrity of the system as well as the provision of service quality and bandwidth to the vast majority of their subscribers. Typically, traffic management (aka 'traffic shaping' and in the extreme, 'throttling') have included putting caps on peer-to-peer usage and blocking access to certain sites or services.

What limits - if any - should be set on traffic management techniques by ISPs could be debated in the context of a national digital strategy. However, the issue of net neutrality remains in its early stages, and the CRTC is currently reviewing these issues.²⁸ Whatever the position taken, Canada must ensure that its net neutrality position balances the needs of ISPs with those of developers and consumers. What needs further examination is whether a national digital strategy could set a useful framework within which the CRTC (and Industry Canada) would be able to set the appropriate regulatory conditions.

4.2 Access to Digital Television Services

Internet (and wireless) access is only one part of ensuring that Canadians have the full access to digital services. Future access to digital television services (which can be HDTV or simply

²⁷ CRTC Public Notice 261: Proceeding to consider the appropriateness of mandating certain wholesale high-speed access services – scheduled for November 2009.

²⁸ See CRTC Decision 2008-108 (on traffic shaping) and Telecom Order CRTC 2009-484 (on Bell's usage-based billing)..

digital equivalents to the quality of analog TV today) is another important area of concern as broadcasters make the transition to digital platforms. In fact, the advent of digital technologies may decrease the level of TV services available to Canadians, since many Canadians will lose the local TV signals they still obtain via analog cable or from off-air reception of analog signals. There is a public policy issue as to how the government should ease this transition by broadcasters from analog to digital transmission.

The CRTC has set 2011 as the analog shut off date. By this time it is planned that broadcasters will cease to broadcast in the analog NTSC standard and replace their signals with new digital (typically HDTV) standards. However, the cost for broadcasters to replace all their analog transmitters is enormous – several hundred million dollars. The CRTC can suggest methods of managing this change, but it is outside of its mandate to provide government subsidies for individual TV household conversion or to set parameters for universal access to digital TV services. TV households will need to acquire a digital antenna to capture the off-air digital transmission, or a satellite dish and decoder to bring in a satellite signal containing local programming.

Canadian policy has in the past risen to challenges in terms of TV service extension to all Canadians – from the accelerated coverage plans extending CBC to the far reaches of Canada, to the development of private sector solutions to the transmission of U.S. networks by satellite to communities unable to access these signals by microwave tower. Through existing and new satellite technology, Canada can do the same today – but only with the appropriate regulatory and financial incentives in place.

Introduction of digital radio services

There is a parallel challenge for radio stations and networks in terms of a transition to digital, although there is less urgency. Radio signals will ultimately convert to digital, although unlike television there is little pressure to do so from the US marketplace. Radio licensees have been awarded digital spectrum, but only in a few major markets has the radio industry invested in the digital transition equipment required to transmit in digital format.

Some would argue that the digital spectrum awarded to radio should be developed, or used in a way to link radio to the mobile wireless networks. While there have been radio industry advocates of innovation in digital broadcasting it has not generally taken hold in Canada, unlike Europe. As the radio industry is important to the music industry in Canada, the future development of this digital spectrum could have an impact on Canadian music. For these reasons, digital radio should be considered as part of a national digital strategy.

4.3 Innovation in Digital Media – Technology, Services and Content

Extending broadband access and digital services to Canadians will undoubtedly be a major part of any national digital strategy. Complementary to the increased access is the need for innovation in digital media, so that new services and new content forms can evolve from the current traditional forms. The cultivation of innovation will also be extremely important to Canadian content and Canadian economic development in view of the expected high growth of digital media. There are many opportunities for Canadian firms and their research partners to become part of that growth – in digital media infrastructure, broadband wireless solutions, and new business models to monetize content on digital platforms.

Infrastructure innovation

The Canada 3.0 conference cited earlier positioned the promise of digital media as a major opportunity for the media as well as other industries. There are new product, system, and service opportunities from the continuous development of infrastructure or platforms to serve digital media applications. The Canada 3.0 conference's co-lead - Open Text's Tom Jenkins – recently related how the digital media sector is globally one of the fastest-growing in the knowledge economy; it is expected to grow to USD \$2.2 trillion globally over the next five years.²⁹

There are some regional organizations quite actively promoting this type of innovation. Examples include the Ottawa's OCRI and Waterloo's Communitech. Both promote their regions as hubs for the commercialization of innovation, and create economic prosperity by removing growth barriers for technology companies. The result is Waterloo is being recognized as a world-leading centre for digital innovation.

High-speed mobile wireless innovation

Advancing technology, changes in market structure, and regulation/spectrum decisions have combined to lay the foundation for rapid innovation in the mobile world. In the case of the Canadian wireless market, it is likely that the new wireless operators who purchased spectrum in the 2008 Industry Canada auction will introduce new wireless products and services as a

²⁹See: <http://www.theglobeandmail.com/report-on-business/small-business/next-big-thing/what-in-the-world-are-we-waiting-for/article1246586/>

means of differentiating themselves from incumbents. Broadband wireless applications and services that take increasing advantage of the newer Smartphone devices (e.g. iPhone, Blackberry, etc.) and transmission speeds are expected to become key growth drivers in the mobile wireless field over the next decade. Expanding the wireless market in Canada is one means of increasing the likelihood of innovation in wireless business models, applications and products.

Incentives for technological innovation

Infrastructure innovation, including the high speed mobile area, requires a sophisticated high tech sector, a skilled workforce, and access to risk financing. The background is that overall Canada's R&D performance has lagged other countries over decades of tracking investment in R&D for a number of structural reasons. However, federal policy has supported Canadian technological development as much as most countries through R&D tax credits, subsidies in specific high tech industries like defense and aerospace, through direct participation in R&D through NRC, etc. and via the funding of research at Canadian universities.

The communications sector has been a bright spot in Canadian R&D and innovation. Canadian telecom equipment supplier firms (e.g. Nortel, Newbridge, JDS/Uniphase, etc.), component manufacturers (ATI/AMD), infrastructure developers (Open Text), and device manufacturers (RIM) have been world leaders in innovation. The recent decline and sell off of Nortel - still the leader in R&D spending and patent-holding in the high tech sector, shows that the sector is as vulnerable as those in the old economy to mismanagement, fraud and economic downturns.

While government financial incentive programs cannot work without sound management they are indispensable to attract risk capital and investment in innovation. Innovation in digital media and wireless technology are essential to a vibrant Canadian digital sector, and as such a national digital strategy should ensure that companies have access to a competitive set of incentives in the future.

Service and content business model innovation

As discussed in the case of cultural industries above, innovation in digital media extends beyond infrastructure, hardware, and systems solutions in digital communications. Digital media is a disruptive technology for content industries as well. Such disruption leads to potential innovation in business models, so that innovation can be expected in the content development, production, marketing, and distribution as well.

Content production lends itself to innovation by using new tools and technologies, so that the innovation is often one of new business models to monetize content assets on digital platforms. But the creation of interactive content by itself may not be sufficient. Innovation in packaging, marketing, and distributing content on-line is also key to the development of new revenue streams based on digital platforms. Thus, the national digital strategy should take into account innovation that is business-model driven as well as the more classic technological innovation.

4.4 Sources of Financing for Infrastructure and Content

Since digital infrastructure needs to be upgraded if Canada is to compete in the top echelon of digital economies, investments in infrastructure and content need to be financed. Providing universal access to broadband and broadcasting services raise issues about what kind of public funding is required. Furthermore, as outlined earlier, traditional market support of content creation is eroding and new ways to finance content have to be developed.

While the sources of financing could differ from those allocated to improving service accessibility, it could be advisable to review them altogether as part of a national digital strategy. Potential sources for financing include the proceeds from forthcoming spectrum auctions, securing direct funding for targeted initiatives, and extracting funds from the high-speed access transaction in some way.

Proceeds of spectrum auctions as sources of financing

Broadband wireless is the new frontier for all kinds of applications. However, the high price tag of the 2008 Canadian spectrum auction process has raised issues about depletion of the private investment capital needed to put the infrastructure in place to make use of that spectrum. There are calls to rethink how the federal government uses the proceeds of the spectrum auction – which now “disappears” into the government’s Consolidated Revenue Fund. Some would maintain that it is imperative now to begin the process whereby a portion of the funds to be raised from the next spectrum auction can be earmarked specifically to the ends of a national digital strategy. The uses and applications of these funds could include incentives to expand broadband coverage and to invest in Canadian digital content and

applications.³⁰ Whether the funds generated by these auctions could be redirected toward the financing of programs designed to extend access and foster innovation should be on the agenda of a national digital strategy.

Direct funding of infrastructure initiatives

As described earlier, a benefit of extensive broadband infrastructure is potentially greater efficiency in the delivery of government services. In fact, the federal government has committed some direct funding for certain service delivery initiatives. In its 2009 budget, the federal government allocated \$500 million to the Canada Health Infoway to encourage the greater use of electronic health records. At the same time, \$225 million over three years was allotted in the 2009 budget to develop and implement a strategy on extending broadband coverage to underserved communities – generally located in regional and remote areas. It is not clear whether the latter amount is sufficient to serve the target communities or whether its focus is too narrow.

Funding through ISP levy

Another alternative funding strategy that has been suggested for content is one that is certainly not favored by ISP carriers, but was seriously considered by the CRTC in the Canadian Broadcasting in New Media Hearing (2008-11). A levy on ISPs to help finance Canadian digital content would roughly parallel the method for financing television programming through the Canada Media Fund. The CRTC decided not to proceed in this way, but it did refer the matter to the courts to determine if the CRTC had the jurisdiction to do so. If that mechanism is not appropriate, then the issue becomes whether other measures are more effective.

It is likely that a mixture of financing mechanisms will be employed to fund the improvement of Canada's digital infrastructure and digital content. Exactly what that mixture will be should be an important issue in the design of a national digital strategy.

30 See a recently released report "Broadcasting to Broadband: Culture and Commerce in a Digital Media Ecosystem" by Telus' Michael Hennessy. In TELUS' opinion, the government has an opportunity to generate funds for the creation of digital ecosystem with the upcoming spectrum auctions at 700 MHz and at 2.5/2.6 GHz. The revenue generated should be put back into extending broadband infrastructure, aiding the broadcaster transition from analog signals and also, in investing in the creation of original digital content.

4.5 Infrastructure Issues for a National Digital Strategy:

Based on the discussion about infrastructure the following issues are proposed as within the scope of developing a national digital strategy:

- How should Canada set standards for universal service in broadband, and how should they evolve over time and by target economic sector / activity?
- Are there overall directions that should be communicated to the regulator as to how net neutrality should be factored into the concept of universal access?
- What is the right incentive system to ensure universal access to broadband?
- What kind of regulatory incentives and public subsidy of consumer equipment, if any, should be considered to help facilitate the transition of TV and radio to digital?
- How can government best promote technological and business model innovation among Canadian companies and entrepreneurs?
- From where should public funds be obtained to encourage private investment in universal access and Canadian content – future spectrum auctions, direct funding, high-speed connections transactions, or other alternatives?

5. International Comparisons of National Digital Strategies

The main inspiration for this issues discussion paper was the release of Digital Britain, which provides a useful backdrop to the consideration of the issues to address in Canada. In addition to the UK example, there are other national initiatives of western countries to benchmark the issues suggested in this discussion paper that Canada should address.

5.1 Digital Britain: Raising the Bar for Canada

One example of an integrated national digital strategy, *Digital Britain*, shows that the UK clearly understands the digital connection that fosters the creative industries, generates innovation in technology, and drives economic growth. In the UK, a nine-month process shepherded by Lord Stephen Carter, a prominent political figure, led to the creation of this *uber* policy report for culture, technology, and communications.

There is little doubt why the creative industries command much attention in the UK as part of innovation and economic growth. The creative industries represent more than 8% of the UK's

GDP.³¹ In comparison, Canada creative industries generate less than half that amount.³² Surprisingly, Canada maintains a similar level of cultural contribution to GDP as the US, although the latter is more geographically concentrated in Los Angeles, New York and a few other centres for particular creative industries like music in Nashville or Austin (Texas). While Canada may not catch up to the UK in terms of the creative sector’s percentage of GDP, it shows that there is tremendous opportunity for growth.

Digital Britain sets a coherent policy for several interrelated areas, among them the following (see box for more details):

- upgrading education and training for digital literacy;
- addressing copyright compliance;
- stimulating investment capital for high-speed accessibility;
- setting targets for universal access to broadband services;
- funding high priority TV content (e.g. children's TV programming); and
- creating innovation and investment incentives for digital content, applications and services.

The UK’s solutions will not be Canada’s solutions, but its integrated approach is a great model for Canada. The specific initiatives put forth in the *Digital Britain* report broadly fit into three categories: upgrading digital skills; strengthening the creative industries; and extending broadband and digital TV accessibility. In Table 2 below some of these programs are highlighted:

Table 2 - Summary of Digital Britain

| Digital Skills Training | Strengthening the Creative Industries | Broadband and Digital TV Accessibility |
|--|--|--|
| ➤ Reform ICT skills education from the primary level up to secondary – focus on real | ➤ Negotiate multi-annual settlements for the BBC that ensure political pressure- | ➤ Actualize the broadband Universal Service Commitment of 2Mbps by |

³¹ Department for Culture, Media and Sport & Department for Business, Innovation and Skills (United Kingdom) *Digital Britain Final Report*

³² Creative industries account for \$46 Billion to the Canadian GDP in direct (not indirect) activities; see, Conference Board of Canada *Valuing Culture: Measuring and Understanding Canada’s Creative Economy* pp 31-33



| Digital Skills Training | Strengthening the Creative Industries | Broadband and Digital TV Accessibility |
|--|---|--|
| <p>life applications</p> <ul style="list-style-type: none"> ➤ Allocate £8.5m for the establishment of the National Skills Academy for Information Technology – will train 10,000 ICT professionals in first 3 years ➤ Spend £11m for ICT specific skills under the Train to Gain scheme, under which 1m workers have received job support & training | <p>free funding</p> <ul style="list-style-type: none"> ➤ Coordinate industry, ISPs and government approaches to policing IP infringement and piracy ➤ Expand greater cultural tax credits and relief to creators of British TV, films and videogames ➤ Award £25m to the British Film Institute for digital archiving of heritage film collections | <p>2012</p> <ul style="list-style-type: none"> ➤ Commit to ASO and completely digital TV broadcast by 2012 ➤ Clear the 800Mhz spectrum band after ASO & expansion of 3G coverage ➤ Allot £300m aid to low-income families for home broadband access |

As shown above many of the initiatives that *Digital Britain* has proposed deal with thematically similar issues to those that Canada needs to address. Building upon what the UK has proposed, there is an opportunity for Canada to take an integrated approach to digital strategy a step further.

5.2 Other National Approaches to Digital Strategies

Britain is not the only nation that has devised a strategy for its digital future. Other developed countries (e.g. Germany, France, New Zealand and Australia) have already completed weighty deliberations and have penned similar policy documents. The scope of these reflections contains some common elements that are pertinent to the issues to be addressed in the national digital strategy proposed in this discussion paper – spanning societal, cultural and infrastructural needs.

On the following page is a brief outline of some of the key concepts in the reports prepared by these four countries:

Table 3 – Selected National Digital Strategies

| | Germany <i>iD2010 – Information Society Germany 2010 (2006)</i> | France <i>Numérique 2012: Digital Economic Development Plan (2008)</i> | New Zealand <i>Digital Strategy 2.0 (2008)</i> | Australia <i>Digital Economy Future Directions (to be released 2009)</i> |
|-------------------------|--|--|--|--|
| Digital Literacy | <ul style="list-style-type: none"> ➤ Allocates funds for post-secondary ICT programs and digital literacy training | <ul style="list-style-type: none"> ➤ Calls for reduction of the “digital divide”, between rich/poor and urban/rural, young/elderly etc. ➤ Encourages use of broadband technology to facilitate civic participation, delivery of public services | <ul style="list-style-type: none"> ➤ Promotes digital literacy, skills upgrading formal education in ICT | <ul style="list-style-type: none"> ➤ Reform IP/copyright laws, re: piracy & fair -usage ➤ Expand ICT training institutions & creating more skills upgrading centres ➤ Envisions a ICT/digital community with sustainability & environmentally sound practices |
| Cultural | <ul style="list-style-type: none"> ➤ Puts forth the notion that culturally relevant & heritage materials (should be available for public viewing online | <ul style="list-style-type: none"> ➤ Provides support the creation of French content, especially new media and/or that promotes French culture | <ul style="list-style-type: none"> ➤ Supports the creation of culturally specific content ➤ Establishes competitive tax regime to allow large productions to be made in NZ | <ul style="list-style-type: none"> ➤ Increase funding for digital access to publicly-funded cultural, educational and scientific collections |
| Infrastructure | <ul style="list-style-type: none"> ➤ Sets the goal that by 2008, 98% of inhabitants would have access to broadband ➤ Calls for optimizing the usage of spectrum freed up by ASO ➤ Researches into feasibility of complete content syndication between mobile, broadband and broadcast | <ul style="list-style-type: none"> ➤ Calls for universal access to broadband of at least 512/kbps and at a cost of less than 35€/month ➤ Complete ASO by 2011, the freed spectrum will give new mobile providers an opportunity to enter the French market | <ul style="list-style-type: none"> ➤ Aims for universal broadband: by 2012, 80% of users will have access to broadband connections of 20 Mbps or higher, and 90% cent will have access to 10 Mbps or higher | <ul style="list-style-type: none"> ➤ Improve content protection through ‘geoblocking’ ➤ Allow industry to take a leading role in the creation of the national broadband network ➤ Address security gaps that are boons to fully exploiting e-commerce |

Table 3 (above) illustrates that some trends are clearly starting to emerge across these industrialized nations. Indeed, all the strategies deal to some extent with the following areas: education & training in ICT; promoting national culture through content; and ensuring that broadband infrastructure is universal, affordable, fast and reliable. Furthermore, these strategies all put forth specific targets for broadband access, rather than proposing a way to adjust these targets as technology and demand evolve.

While these findings are similar in many ways, they are some telling differences. Notably, the German and Australian approaches view the role of culture in a digital strategy as making relevant heritage and artistic works available online. They do not, it seems, account for the changing needs of cultural creators in a digital environment. France and New Zealand, on the other hand, see the creation of new content (and new *forms* of content) as central to their strategic goals. At the same time, however, the Australian approach deals most specifically with issues surrounding copyright, the use of online content, and other related legal issues.

It is evident that in order for Canada to succeed in creating its own digital strategy that at least, in part, it takes into account what other jurisdictions have already proposed. As with the Digital Britain, the solutions that work for other nations are not necessarily those that will work for Canada, but each report addresses a fairly common set of key issues that would seem appropriate to the development of a national digital strategy for Canada.

6. Setting the Agenda in Canada

We propose that the issues identified in sections 2 to 4 of this discussion paper constitute a preliminary agenda for a national digital strategy. That agenda can be beefed up by starting to think about goals and objectives within which the agenda can fit. Since how to pull off a national distribution strategy is not as evident as it first might seem, we suggest ways to design the process for generating a national digital strategy.

6.1 A Preliminary Agenda

In addition to the identification of issues, the framework for a national digital strategy should start to define the goals and objectives of a national strategy. To assist in the process of creating an agenda, we have summarized the issues discussed in sections 2, 3, and 4, and correlated them with possible strategic goals for a national digital strategy (See Table 4).

| | Issues to Address | Strategic Goals and Objectives |
|-----------------------------|---|--|
| Digital Literacy Issues | <ul style="list-style-type: none"> ➤ Are educational and training institutions responding to the task of enabling Canadians with the appropriate tools of digital literacy for the workforce and daily life? ➤ What measures are available to help the existing workforce in the cultural and communications industries transition to new digital platforms? ➤ How should governments adopt digital delivery and communications solutions to improve their productivity and engage the increasingly digitally literate citizenry? | <ul style="list-style-type: none"> ➤ Provide direction for education, training, and on the job skills enhancement to improve effectiveness of communications and cultural industries sectors. ➤ Apply digital tools to improve public service delivery and the democratic process. |
| Cultural Industries' Issues | <ul style="list-style-type: none"> ➤ What changes should be made in cultural policy to account for the effects of digital technologies on cultural industries? ➤ How should support measures be reviewed to ensure they are flexible enough to accommodate the adaptation of cultural industries to digital platforms? ➤ How should financial incentives be reoriented to help make companies in cultural industries more sustainable? ➤ What is the role of private broadcasting and distribution networks in the creation and dissemination of Canadian content in a converged world? ➤ How does CBC's mandate fit into national digital strategy objectives, and what is the best way to resource the CBC to achieve those objectives? ➤ In what ways would copyright reform support content development, innovation, and other aspects of a national digital strategy? | <ul style="list-style-type: none"> ➤ Stimulate Canadian innovation and new digital business models in technology, services, and content. ➤ Foster an environment where producers & other content developers can invest in IP and market it globally. ➤ Focus on the development of IP would logically lead to more effective copyright legislation. |
| Infrastructure Issues | <ul style="list-style-type: none"> ➤ How should Canada set standards for universal service in broadband, and how should they evolve over time and by target economic sector / activity? ➤ Are there overall directions that should be communicated to the regulator as to how net neutrality should be factored into the concept of universal access? ➤ What is the right incentive system to ensure universal access to broadband? ➤ What kind of regulatory incentives and public subsidy of consumer equipment, if any, should be considered to help facilitate the transition of TV and radio to digital? ➤ How can government best promote technological and business model innovation among Canadian companies and entrepreneurs? ➤ From where should public funds be obtained to encourage private investment in universal access and Canadian content – future spectrum auctions, direct funding, high-speed connections transactions, or other alternatives? | <ul style="list-style-type: none"> ➤ Establish an evolving standard for universal broadband service. ➤ Incent private investment to extend broadband access. ➤ Ease Canadians' transition to digital TV services. ➤ Promote technological innovation while expanding digital infrastructure. |

A national digital strategy will also help Canada emerge from the recession and partake in some of the fastest growing areas of the global economy. Since the development of a national strategy is the first step toward implementation, the process should be structured in a way that facilitates decisions and action.

6.2 How to Move Forward to Create a Digital Strategy

At a national level, Canada retains a familiar set of jurisdictional divides between Industry Canada, Canadian Heritage, and the CRTC – and other contributing departments and agencies. In framing a digital policy, Canada should aim for a process that overcomes the polarization that can ensue from this fragmented responsibility.

The implementation of a national digital strategy will require innovation in horizontal policy development across departments and agencies. There is an important provincial dimension as well, since provincial governments have evolved their own incentives for the growth of digital media.

If Canada were to follow the lead established by *Digital Britain*, the national digital strategy should be a collaborative process across relevant departments and agencies – and between the federal and provincial governments. The efforts of individual governmental entities are commendable, but working in relative isolation of each other is a serious hindrance to substantive progress. To this end we suggest institutional design principles that we judge to be most likely to result in developing an effective national digital strategy.

Design Principle #1: Make it Political

We suggest that the development of a national digital strategy directly involve relevant ministers and parliamentarians.

In *Digital Britain*, the UK avoided the sclerosis of a royal commission by setting up a more nimble ministerial process involving roughly the equivalents of Industry Canada, Canadian Heritage and the Ministry of Human Resources and Skills Development. The lesson is that any process established to develop a national strategy has to be initiated

at the highest political level and involve those ministers directly accountable for the relevant subjects.³³

We should not simply task selected eminent citizens to look at the issues, and thus absolve Canada from further action until they report back in some leisurely timetable. Rather, we need to fully engage the political process, so that a national digital policy is viewed as strategic to our future prosperity. Canada's parliamentarians need to engage the citizenry in this dialog. In the British precedent parliamentarians were fully engaged. Even the Conservative loyal opposition in the UK created its own *Digital Britain* task force.³⁴

Of course there are antecedents to what we are calling for here. Over a decade ago, Canada organized around the concept of the "information highway."³⁵ There were provincial initiatives, as well, e.g. Quebec's l'autoroute de l'information. However, there have been so many developments in this "info highway" that that kind of focused attention is necessary again. Canada once led the world in bringing the Internet to schools and broadband to homes, but now has some catching up to do.

Design Principle #2: Establish a National Digital Panel

We suggest that in order to pen a national strategy, a digital panel be struck. It should be high level, nimble and authoritative.

Canada should avoid the cumbersome nature of a royal commission or the narrowness of a task force defined around infrastructure. We suggest the establishment of a high level, nimble, and authoritative **national digital panel** that represents major stakeholders inside and outside government.

³³ In France there is a Minister of the Digital Economy (ministre de l'économie numérique)

³⁴ Chaired by Greg Dyke, the ex-Director General of the BBC.

³⁵ The Info Highway Task Force was seen to be successful in raising awareness, but some skeptics point out that it addressed potentially serious issues that never emerged and ignored the full growth potential of the Internet.

Such a panel can seek the views of all the major stakeholders and conduct selected policy analyses. Its composition should include experienced executives knowledgeable about technological innovation, creative industries, training and HR development, investment incentives, and telecommunications. The timeframe should be adequate to generate input from stakeholders and unaligned citizens – of course using the new tools of social media enabled by the Internet.

Design Principle #3: Create Accountability Mechanisms

We suggest that the national digital panel have the mandate to create mechanisms of accountability and also outline which departments and other governmental agencies are responsible for each initiative in the national digital strategy.

In addition to addressing the issues discussed in this paper, it should be the role of the national digital panel to create the structures of how a strategy will work in practice. This kind of recommendation would include delineating ministerial responsibilities and divisions of power, and monitoring progress and creating accountability mechanisms.

Design Principle #4: Establish a Priority Setting Process

We suggest that the national digital panel establish a process to set criteria and a process to set priorities that recognize the limited fiscal room of government, and that leverage private funding for each initiative in the national digital strategy.

This priority process is particularly important in the context of the massive debt taken on by the federal and all governments in Canada. While major investments are needed a national digital strategy cannot simply put forward a wish list of projects whose funding requirements are beyond any conceivable federal fiscal framework. Therefore, an important part of the broad accountability is to design a process in which the panel has to operate within a responsible fiscal framework, and one that constantly looks for ways to leverage private investment.

Design Principle #5: Seek Consensus with the Provinces

Invite the provinces to plan for a series of meetings in which the parameters of a national digital strategy can be reviewed with the provinces and take into account their own strategies .

Because of the importance of provincial initiatives, the national digital panel should take measures to reach out to the provinces. The objective would to develop an effective meshing of federal policy with provincial programs and tax incentives. The coordination required to pull this off will be immense, but in the end, the inefficiencies created by misalignment would be counterproductive.

Design Principle #5: Recognize Role of Regional and Local Initiatives

Incorporate the concept of regional and local clusters in the design of objectives, measures, and priorities.

Design Principle #6: Digital Panel reports to Special Cabinet Committee

We further suggest that the panel should have the ability to directly report to a special cabinet committee with its recommendations.

This national digital panel could report to a **special cabinet committee**, so that it can facilitate decision-making along the way, rather than react to a full report at the end of the process. Cabinet ministers are better equipped to decide rather than consult, as the latter takes too much time. Therefore, the panel can do the consultation and Ministers can set the digital course for the future. The process should take 15 to 18 months to develop and start implementing a national digital strategy.

6.3 Concluding Remarks

Without a national digital strategy, there will be no overall vision to guide such a social and economic transformation in the interest of all Canadians. Rather, debate will be mired in the arcane and fragmented languages of broadcasting regulation, copyright revision, technological innovation, cultural subsidies, and broadband infrastructure. Stakeholders in ICT and culture each have their own perspectives in forming their vision as to a coherent strategy in face of the enormity of digital convergence.

Some would argue that each of the relevant spheres of societal, cultural and infrastructure issues could be addressed as mutually exclusive concerns. However, that is not far reaching enough. For a unified vision to come through and for the fragmentation of the debate to be mitigated, all policymakers will need to shift their perception to a more constructive and holistic one. Otherwise, solutions will continue to be piecemeal, and decision frameworks will continue to be reactive and narrowly defined.

This paper has made the case that Canada is in need of a coherent and holistic approach to creating a national digital strategy. For the numerous societal, cultural and infrastructural reasons discussed, Canada can ill-afford to languish on its aging



digital laurels. Canada has the opportunity to draw upon suggestions already made in other jurisdictions and improve upon them. We suggest the creation of a national digital panel that will report directly to a special cabinet committee over the course of 12 to 18 months in order to establish and implement a coherent digital strategy.

In order for this process to be effective it must be backed by high-level government officials and assign clearly delineated tasks to various ministries and agencies. There have already been significant calls to action from key policy players and any further delay on this process will only lead to continued fractional efforts that address limited areas of concern. Canada should look at the larger picture and develop a national digital strategy.