

Digital Economy Consultation

CREATING CANADA'S DIGITAL SOCIETY

A submission to

The Government of Canada

by the

Canadian Federation for the Humanities and Social Sciences



Canadian Federation for the
Humanities and Social Sciences

Fédération canadienne
des **sciences humaines**

July 9, 2010

About the Canadian Federation for the Humanities and Social Sciences

Representing more than 50,000 researchers in 72 scholarly associations, 75 universities and colleges, and 6 affiliates, the Canadian Federation for the Humanities and Social Sciences is the national voice for the university research and learning community in these disciplines.

The opinions expressed in this paper are those of the Federation and not necessarily those of the members its Task Force on the Digital Economy.

For information, please contact 613.238.6112 ext. 351 or visit www.fedcan.ca

July 2010

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Creating Canada's Digital Society

Canada has long been a leader in digital initiatives, from new technological advances such as high-speed broadband connectivity and user-generated content to electronic publishing, distance learning and digital art. Because of these developments, ours is a society deeply engaged in the digital world. Whether at home, at work or at school and university, Canadians of all ages in every region are embracing technology and reinventing the ways they learn, create, conduct business and interact with the world.

As Canada rapidly moves into the digital age, it is clear that *people* need to be placed at the centre of the federal government's roadmap for the digital economy. Providing universal access to digital infrastructure and knowledge, engaging citizens in the digital society, and developing skills best-suited for the information age are critical foundations upon which to build a digital strategy for the 21st century.

The consultation on the digital economy is a critical first step in exploring and establishing a digital society. This is the opportunity to challenge common assumptions that the digital age is technologically driven. In the digital age, technology is a powerful enabler, accelerating the advancement of knowledge and interacting with deep conceptual and behavioural changes that must be understood and addressed. To create and maintain the necessary human capital, Canada needs the full spectrum of artistic, intellectual and technological "tools" for a successful transition to a digital society driven by innovation.

Transforming Canada into a digital nation will require partnerships among all sectors and a significant shift in how information is created, flows, is distributed, is accessed, and contributes to reinventing our institutions and our relationships as Canadians and as global citizens. The ability to connect virtually using digital technologies, to access relevant information and knowledge, and to use digital content effectively enables businesses, governments and institutions to innovate, boost their productivity and reach across Canada and around the world.

Given the importance of "digital" to our economy, our prosperity and our democracy, Canadian society must be at the leading edge of "immersive digital environments" in education and learning, health care, research, business, services, culture, and public life. The knowledge society cannot be limited to academia and specific industries. It requires the full mobilization of Canadian talent, technology and content.

As the national voice for university research, teaching and learning in the humanities and social sciences, the Canadian Federation for the Humanities and Social Sciences embraces the exciting challenges of positioning Canada at the leading edge of the digital world.

In its brief, the Federation addresses only the questions of the Consultation Paper that are relevant to its mission and areas of expertise.

Building a digital nation

Social sciences and humanities research informs many aspects of the digital economy by looking into the social, legal, political, economic and cultural issues related to new media and technology. Here are a few examples

Understanding innovation and creative industries

A research team at the University of Toronto's Rotman School of Business is aiming to draw economic insights from the creative industries to help make Canadian industries more competitive globally. Heavily science- or arts-based, creative industries are those in which highly-qualified talent is a key input, ideas and intellectual property are key assets, and creative goods and services are key outputs. The research team seeks to understand the role and composition of the creative industries and the creative economy broadly, focusing on the role of innovation, mechanisms to manage and motivate creative people, occupations and career paths in creative industries, geographic mobility and location, and workspace layout and design.

Understanding cybercrime

A researcher at the Université de Montréal is examining how technology enables an entirely new way of committing, combating and thinking about criminality, criminals, police, courts, victims, and citizens. Technology offers not only new ways of combating crime, but also new ways to look for, unveil, and label crimes, and new ways to know, watch, prosecute and punish criminals. Drawing upon the disciplines of criminology, political science, sociology, psychology, anthropology, surveillance studies and cultural studies, the research advances our understanding of the relationship between crime and technology.

Self-medicating over the internet

Practically all drugs are available over the internet and their long-term impact on the health of Canadians is not well understood. A researcher at the Université du Québec à Montréal is examining teen agers and young adults' use of medication outside of medical supervision. The research looks into the role played by internet forums to share or gain information about weight loss and performance-enhancing drugs, and learn how to use them. The research also examines the so-called "expert figures" that are emerging from these virtual forums and influencing the decisions made by young consumers who place their trust in unregulated online sources.

Educational gaming

Immersive interactive digital entertainment has become a defining feature of the younger generation of learners. Research studies have shown the potential educational benefit that can be gleaned from either commercial games or purposively designed educational games. A new research project at the University of Calgary is developing an innovative learning world in which students work as 'game designers' and learn math and science from designing, developing, and assessing games for others to use.

1. Developing the Capacity to Innovate Using Digital Technologies

Should Canada focus on increasing innovation in some sectors or focus on providing the foundation for innovation across the economy?

Canada is well-positioned to succeed in a post-industrial economy where services make up the core of economic activity. Our country already benefits from a well-developed ICT sector, high-speed connectivity to support world-class research, business leadership in areas such as banking and consulting, and burgeoning start-ups in high-profit industries such as gaming and entertainment. Canadians, particularly those living in urban centres, are also among the most connected people in the world.

As Canadian start-ups grow in areas of service, consulting, new media, wireless and software, government support programs must recognize the foundational role that the recruitment and retention of talent play in these knowledge-intensive sectors. To ensure success in the global digital economy, programs must support more than the *acquisition of technology*; they need to recognize the role that *access to knowledge and information* has in growth and innovation. Canadians also need to recognize the responsibility shared by the provinces, the federal government, labour, communities and other stakeholders in nurturing talent and skills at every stage of education and learning.

Recognizing the significant investments that have been made in research infrastructure and capacity, governments must likewise ensure that the rich body of existing expertise within the social sciences and humanities is leveraged when developing policy for the knowledge economy. The ability to connect virtually using digital technologies, to access relevant information and knowledge, and to use digital content effectively enables businesses, governments and institutions to innovate, boost their productivity and reach across Canada and around the world.

While creative clusters are critical for success, these cannot thrive in isolation. The Federal Government should provide the necessary foundations for all Canadians to fully participate and innovate in the digital society.

From the convergence of theory and practice in business and social innovation will emerge a digital nation. Such an integrated model of innovation, however, requires the full mobilization of skills and knowledge generated in every discipline and sector. Social sciences and humanities expertise also helps to advance understanding of innovation, innovation systems and industrial clusters, and to maintain a strong, informed policy capability as it relates to the digital society.

The Social Sciences and Humanities Research Council is well positioned to support the effort to turn Canada into a digital nation. SSHRC has recently renewed and simplified its program architecture to meet the needs of Canadian researchers better in the evolving world of research, training and knowledge mobilization. Key features include a strong focus on interdisciplinary and cross-sectoral research, partnerships, collaboration and next generation talent.

In the past four years, SSHRC has invested over \$63 million to support more than 500 research projects that help build Canada's digital advantage. These include research to understand the impact on consumers of electronic price display and consumer behavior in retail websites, a study of the impact of human-computer interface technologies for using digital documents, and exploring the impact of advertising on Canadian consumers of health information web sites.

2. Building a World-Class Digital Infrastructure

What steps should be taken to ensure there is a sufficient radio spectrum available to support advanced infrastructure development?

The network system that serves as the backbone for research and supports online access to scholarly research and collaboration among academics in Canada is not widely accessible. The national network (CA*net4) is provided by the Canadian Advanced Network for Research, Industry and Education (CANARIE) – and is further distributed by provincial research networks such as CYBERA and ORION. The scope of the system is comprehensive in some respects, inasmuch as CA*net4 is connected to most universities and colleges, about 50 research institutions and federal government labs, and over 100 similar research networks in more than 80 countries. Beyond this point, however, the system becomes less comprehensive in its reach. CA*net4 is connected to only a few school divisions. The system is not connected to public libraries nor is it connected to the desks of policy makers or private social scientists engaged in public service – or private sector firms. The fact that the CA*net4 system is not accessible to the vast majority of Canadians constitutes a major challenge to mobilizing content with the goal of developing Canada as a knowledge society with a well-informed and flexible workforce.

Connecting CA*net4 and its services to every public educational institution and every public library in the nation would provide a national backbone for business, innovation, creativity and citizenship in the digital environment.

How best can we ensure that rural and remote communities are not left behind in terms of access to advanced networks, and what are the priority areas for attention in these regions?

Given the high costs of construction and maintenance, private sector firms only invest in network development where a reasonable rate of return in the short- to medium-term is foreseeable. They do not invest in rural and remote markets where return on investment is unlikely or impossible over the longer term. As a result, the market-driven approach has led to a duopoly situation in which the roll-out of next-generation infrastructure is being driven by telecommunications companies competing with cable companies. This may not serve Canadians' broader interests in terms of choice among service providers, innovation and access. Although a Canadian Radio-Television Telecommunications Commission-led focus on competition could encourage smaller players to offer services, this has not yet happened in Canada.

Federal programs aimed at supporting infrastructure development have been directed at rural and remote communities. Programs such as *BRAND*, *NSI*, and *Broadband Canada* have been designed to provide some basic measure of connectivity for those communities where private-sector service is not available. They also require their respective communities to secure matching resources. The more successful network infrastructure initiatives have been comprehensive in scope and have taken into account the limits of private sector interests. One such example is the Alberta SuperNet – a joint initiative in which public and private funds are used to connect virtually all communities within the province.

A national digital economy strategy should build on these models to help ensure that Canadians in every region have access to the infrastructure and services needed to fully participate in the digital economy and become engaged digital citizens. Furthermore, a comprehensive plan for broadband network infrastructure development in rural and remote communities would be an essential complement to a national digital economy strategy. Ideally developed by the federal government in partnership with its provincial, territorial and municipal counterparts, this plan should take into account such issues as demand for digital content and services, appropriate cost structures, protection of privacy and quality of service.

Simply extending access to broadband networks and applications does not solve the problem of how to foster a *culture of use* for digitized products and services. The notion that *if we build it, they will come* does not work. Community informatics research points to the necessity of developing local capacity to enable 'effective use' of ICTs. Because of their reliance on involvement of a market competitor that often doesn't have strong roots in the community being served, federal broadband subsidies have not always achieved their goal. Building a culture of use among Canadians requires a multitude of interrelated processes, including government information campaigns, the determination of needs and wants by communities of place and of practice, and the development of multiple stakeholder partnerships. Once needs and wants are identified by communities and individuals, then appropriate products and services can be designed by private sector firms, local entrepreneurs, non-governmental organizations, or with appropriate support from public sector service agencies.

3. Growing the ICT Industry

What efforts are needed to address the talent in the coming years?

The most effective mode of technology transfer is through human capital as university students take what they learn in classrooms and through co-op placements to their employers or start-up companies. One cannot envision the development of the ICT/digital media sector without strong federal and provincial commitment to fostering new talent. Government and industry partners recognize that the search for talent is no longer a local issue – it is an international challenge. To ensure that Canada has the talent needed to be competitive and innovative in the digital economy, governments must invest in education from the K-12 through to the post-doctoral and faculty levels.

The Government of Canada has initiated programs that allow universities to build capacity in critical areas. The Canada Research Chair program and the Canada Excellence Research Chairs have allowed our universities to attract and retain outstanding scholars and scientists to prepare the next generation of researchers, innovators and entrepreneurs. However, these programs — along with the SSHRC and NSERC masters, doctoral and post-doctoral scholarship programs — might not be enough to meet the needs of the digital economy.

The Information Technology Association of Canada (ITAC) captured the talent need succinctly: “Canada’s got talent, just not enough.”¹ Strategic investments in programs and initiatives that nurture cross-disciplinary talent are essential to the digital economy, as they help create the people and entrepreneurial advantages needed to succeed in global markets.

The federal government continues to have a central role in facilitating the attraction of highly qualified personnel in all disciplines related to digital media industries. Programs such as the Canada Research Chairs, the Vanier Postgraduate Scholarships, the Canada Excellence Research Chairs, and the Banting Postdoctoral Fellowships constitute national assets on which to build our ability to attract and retain the best talent from every discipline. The creation of additional masters and PhD scholarship funds for international students, in all disciplines, would enhance the ability of Canadian universities to compete globally, especially in countries where domestic universities have matured and become more attractive to top-tier students.

Attracting and retaining women into disciplines that will have a direct impact on the ICT/digital media sector is of critical importance. Since female students comprise more than 50% (often much more) of the undergraduate and graduate student populations in Canadian universities, we are losing a significant proportion of our highly qualified human capital if these women are not attracted to and retained in industries underpinning the development of a digital society.

¹ ITAC (2009), Upping our game: A national ICT strategy for Canada. p. 11.

Fostering growth in an increasingly digital world

The ICT industry is a multi-billion dollar sector in Canada. The ICT sector represents 5% of Canada's GDP and has contributed more than 11.5% of real GDP growth in Canada since 2002. The ICT industry is also a major investor in R&D, at nearly \$6 billion annually.

Nearly 1.1 million individuals are employed directly in the ICT sector and ICT-related positions throughout the economy. The ICT sector employs more individuals than the automotive industry at its peak. ICT employees are highly educated and earn more than the national average. The use of ICT boosts the productivity of workers, supports innovation, and enables entrepreneurial initiative across all sectors of the economy.

All individuals employ ICT/digital media in growing aspects of our daily lives – from talking to our children and grandparents, purchasing daily essentials, and interacting with our health care providers and teachers to interacting with government officials and media. The Conference Board of Canada's report on Social Networking, *How Companies Use Web 2.0 to Communicate with Employees*, for example, highlights the importance of ICT/digital media to the competitiveness of Canada's industry.

The ICT industry ranges from large multi-national companies such as Research in Motion (RIM), Open Text, and IBM through to SMEs such as MarbleMedia and Xenophile, to small one- and two-person firms housed in digital-media incubators such as the Niagara Interactive Media Generator (nGen) in St. Catharines, Ontario. The larger companies are truly international players. Many of these companies have strong research affiliations with Canadian universities. These research ties extend beyond traditional disciplines such as electrical and computer engineering, software engineering and computer science into the health sciences, business, and social sciences and humanities (art, curatorial and museum studies, design, digital media, education, literature, history, business, health and others).

Innovation in the ICT/digital media occurs at all levels and from all disciplines.

4. Digital Media: Canada's digital content

What are the core elements in Canada's marketplace framework for digital media and content? What elements do you believe are necessary to encourage the creation of digital media and content in both official languages and to reflect our aboriginal and ethnocultural diversity?

A large body of knowledge developed with the support of public funds already exists in Canada and constitutes a rich resource to enhance the Canadian experience, support the development of new Canadian talent and bolster our ability to engage in the global digital economy.

Digital and digitizable content directly paid for by taxpayers includes content produced by government bodies such as Statistics Canada and the National Research Council, crown corporations such as the CBC/Radio-Canada and the National Film Board, and publications currently subject to Crown copyright.

Content directly paid for by taxpayers should be made available freely via the internet. Eliminating Crown copyright and creating a system through which government information can be made available online would significantly increase access to content. Similarly, making available publicly subsidized research and creative work after a reasonable, defined period would enable Canadians to access current knowledge in many areas of social and economic development. Such a requirement already exists for publicly funded scientific research in the USA and medical research in Canada.

Making government information available online

Data.gov is an initiative of the U.S. Government to lead the way in democratizing public sector data and driving innovation. The data is being surfaced from many locations making the Government data stores available to researchers to perform their own analysis. Developers are finding good uses for the datasets, providing interesting and useful applications that allow for new views and public analysis. In just one year, the U.S. Government went from 100 datasets available to the current total of about 270,000 datasets. New products, new businesses, new relationships, new insight have emerged by making this material accessible.

Much peer-reviewed research and creative work, including books, monographs, journals, and magazines, as well as many dissertations completed at Canadian universities, are also publicly funded or supported by the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council, the Canadian Institutes of Health Research or the Canada Council for the Arts.

Fundamental elements of Canada's cultural history are also found in the information and artefacts housed in Canada's national museums, galleries, libraries and archives.

In addition to representing our country's creativity in every area of human endeavour, this research and this cultural, historic and political content, have been — and continue to be — created in both official languages, and much of it bears upon our people's rich cultural diversity.

This digital and digitizable content is not important only to Canada's university researchers and their students. It also comprises an enormous wealth of works, photos, newspapers, TV clips and data that could be used for broader educational purposes — for instance, in interactive textbooks on art, literature, history and the social sciences for primary and secondary education and citizens' lifelong learning. If

digitized and made widely accessible, this content would raise the visibility of Canadian culture, including the communities in which it originated, while creating opportunities for economic development. We are beginning to hear success stories which deserve more nimble support (e.g. NFB national screening room, TOU.TV, CBC Radio 3, the Tyee, the Mark).

Yet Canada is falling behind. Wider access to digitized content is feasible, as evidenced by the European Commission's Digital Agenda.² Related national initiatives outside the EU include the online multimedia archives of the BBC in the UK³ and the Smithsonian Institution's Research Information System in the USA.⁴

Furthermore, the digitization and accessibility of all information and artefacts housed in Canada's national museums, galleries, libraries and archives would represent an unprecedented source of knowledge for research, and for educational, social and cultural purposes.

What kind of hard and/or soft infrastructure investments do you foresee in the future? What kinds of infrastructure will you need in the future to be successful at home and abroad?

A massive national effort to digitize our existing content is vital if the Canadian voice is to be heard and our knowledge made part of the global dialogue. It is now very feasible to digitize all print, film, and broadcast material which is outside of copyright. Other key materials covered by Crown copyright, such as publications, consultant studies, research reports, and Hansard can be digitized in the short term. For material in copyright but out of print and for orphan works (copyright works for which it is difficult or impossible to contact the copyright holder), new arrangements can be developed (akin to the public lending right payment scheme). For material still in print, new publishing business models will need to be explored involving the relevant stakeholders. Accordingly, some legislative provision would be needed for films and broadcast materials where the rights issues are much more complex.

This project requires resources to digitize existing content in technologically robust formats. It also requires resources for compiling metadata to contextualize the content and support for maintaining public repositories to ensure ongoing accessibility and usability. This would significantly enhance the ability of library and archival communities to ensure the preservation of our national heritage for future generations.

Grassroots involvement in a national digitization effort should be encouraged. Beyond grassroots involvement, however, government intervention would be required to encourage archives and libraries to coordinate equipment purchases and longer-term projects, set national targets for digitization, and to support meta-data tagging financially.

Such large-scale digitization and access initiatives, however, would need to be undertaken carefully so as not to impede the commercialization of Canadian discoveries and of new technologies for the benefit of Canada.

² This initiative is the European Union's successor to earlier initiatives, including i2010 and eEurope 2005 and 2001.

³ <http://www.bbc.co.uk/archive/>

⁴ <http://americanhistory.si.edu/archives/d-10.htm>

The development and maintenance of a pan-Canadian network of trusted digital repositories would create a national infrastructure accessible to all and a powerful platform to support the ability of Canadians to learn, share, conduct business, and innovate. Canada's research and scholarly community could help advance such an initiative by assisting in the development of an organizational model, standards and operational policies.

Currently, the vast majority of publicly subsidized social sciences and humanities research in Canada — which is distributed via scholarly journals — is not accessible to the Canadian public. While social sciences and humanities journals are fully accessible in online form at most research universities, these services are not farther distributed to other post-secondary and secondary educational institutions or the wider public. One option to enhance access to social sciences and humanities knowledge in Canada would be to accelerate the creation of university-based institutional repositories, such as those currently at the University of Calgary and Concordia University. Another complementary option would be to provide wider access to knowledge via the CANARIE network.

Bill C-32 and the Digital Economy

Introduced in June 2010, Bill C-32 sets out a new copyright agenda in Canada. The bill puts forward several important amendments, including key educational provisions. Fair dealing is expanded to include education, parody and satire. As well, the bill removes restrictions around reproducing work to display it for educational purposes. The Federation welcomed these provisions, which will give educators across the country access to a wealth of resources in order to support their teaching.

However, a central issue of concern remains. Bill C-32 states that breaking digital locks is only permitted for certain, narrow uses. Fair dealing is not included in this list of uses. By strictly blocking access to and the sharing of information, digital locks will impede innovation and restrict researchers. Knowing the existing body of research, and being able to explore this work, are essential for creating new ideas. Providing fair access to digital content without unreasonable restrictions is necessary to make Canada an innovative digital leader.

5. Building Digital Skills

What do you see as the most crucial challenges in skills development for the digital economy?

As the digital environment becomes a fundamental aspect of the fabric of everyday life, it is important that Canadians be able to communicate, access goods and services, or seek employment online. However, attempts to identify and impart specific skills to match specific situations must give way to broader digital competency, coupled with the development of critical assessment capacity to understand the impacts of digital actions. Canadians must acquire digital skills – not just learn specific applications or technologies.

The Consultation Paper notes that there are skills shortages in the ICT sector and suggests that ICT education be combined with other fields. Joint programs such as these could be supplemented, as is the case in the UK, with industry internships and mentoring for social science and humanities students to build bridges between the needs of the ICT sector and the skills of these graduates.

Learning in the digital environment

Digital games are a 21st century medium with a huge appeal and a wide variety of genres, presentations, and narratives. The global market for interactive games software and hardware is now close to \$30 billion with Canada accounting for approximately \$1 billion of these sales.

Digital games are one of the most promising media for the development of innovative educational content. Game-based learning integrates game design concepts with instructional design techniques in order to better address the learning needs of this generation. Today's youth highly regards "doing rather than knowing", making interactive, experiential learning, a necessity for their educational success. While there is ample evidence that game-based learning is more appealing than traditional learning environments, there is still little direct, empirical research that supports evidentiary claims about what is learned through play.

A new research project by the Graphics, Animation and New Media Network of Centres of Excellence brings together an interdisciplinary team to develop formal knowledge and methods for the design and evaluation of games for learning and training. Their work will help design better games for new generations of Canadians to learn, and help enhance the competitiveness of Canadian industry.

Created in 2009, the Graphics, Animation and New Media Network bridges IT, arts, design, web applications and e-learning by developing social applications, complex modeling, simulations and image processing in medicine, science, and the entertainment industries.

What is the best way to address these challenges?

Considering the specific case of postsecondary education, those involved in humanities and social sciences education can and should become (or continue to be) leaders in the application of digital tools, media and technologies to the learning environment. Moving beyond existing standalone e-learning platforms, the learning environment should allow an integrated digital experience, where educators and students can interact in various ways that support specific learning objectives of particular interactions.

Social science and humanities researchers have a central role to play in ensuring that digital competency development and capacity for critical reflection are realized. The Consultation Paper acknowledges that we lack "a precise understanding of what digital skills are." Social science and humanities researchers in a variety of disciplines have a strong track record of exploring aspects of our engagement with the digital society, including digital literacy, digital addiction, digital arts, digital divides and the use of the Internet in everyday life. Such studies can identify ways to encourage increased digital competencies and critical reflective capacity, and inform policy making to ensure that Canadians are competent and informed participants in the information society.

If many Canadians are familiar with the work and scholarly contributions of Harold Innis and Marshall McLuhan, only a few are aware that a large number of people with backgrounds in the humanities and social sciences have been very prominent in the development of the new digital economy. Here are a few examples:

- Larry Sanger, co-founder of the Wikipedia, earned his PhD in Philosophy.
- Mark Zuckerberg, founder and CEO of Facebook, applied to Harvard to study classics and switched to computer science only after he sold his first commercial program.
- Michael Everson, a lead developer and current registrar of Unicode, the technology that allows computers to understand alphabets from around the world, did doctoral research in Celtic Studies.
- C. Michael Sperberg-McQueen, a lead developer of XML, the computer language that makes all of today's most exciting web applications possible, wrote his PhD thesis in Comparative Literature.

6. Roadmap to a Digital Society

A successful digital economy strategy will aim to mobilize talent from every discipline, cutting-edge technology developed at Canadian institutions, and the content generated in every corner of the nation. It should also contain a clear vision on how to best ensure that Canadians have the skills needed to participate in the global knowledge economy and be engaged as digital citizens

DEVELOPING INFRASTRUCTURE: Recognizing the importance of access to digital infrastructure, the Federation encourages the federal government to provide the vision and continue to work with its provincial, territorial and municipal counterparts to ensure every Canadian community has access to the broadband speed and capacity needed for growth and development. While creative clusters are critical for success, these cannot thrive in isolation. The federal government should provide the necessary foundations for all Canadians to participate fully and innovate in the digital society.

1. Connect CA*net4 — and the services it provides — to every public educational institution and every public library in the nation.
2. Work with the provinces and territorial and municipal counterparts to ensure a broadband network infrastructure in rural and remote communities, taking into account such issues as digital literacy, appropriate cost structures, protection of privacy and quality of service.

ACCESSING KNOWLEDGE: Recognizing that publicly funded research, data and content constitute an invaluable common resource that should be widely accessible, the Federation supports:

1. Developing a national network of trusted digital repositories. Such a network would complement existing initiatives by universities and enhance the dissemination of the knowledge generated by the university research community to Canada's benefit.
2. Eliminating Crown copyright and creating a system through which government information can be made available online.
3. Making publicly subsidized research and creative work available after a reasonable, defined period of time.
4. Setting national targets, timetables and standards for digitizing publicly subsidized work in Canada's national museums, galleries, libraries and archives.
5. Digitizing all print, film, and broadcast material which is now outside of copyright.

FOSTERING GROWTH: To be successful in the digital world, Canada must continue to invest in human capital, notably by:

1. Continuing and expanding programs such as the Canada Research Chairs, the Vanier Postgraduate Scholarships, the Canada Excellence Research Chairs, and the Banting Postdoctoral Fellowships, including additional masters and PhD scholarship funds for international students in all disciplines.
2. Improving access to knowledge and talent to support small services sector start-ups in services, new media, wireless and software.
3. Supporting specific, targeted ICT internship, co-op programs, and international learning experiences designed to facilitate the mobilization of knowledge and the mobility of digital skills from university to the workplace.

ENGAGING A DIGITAL SOCIETY: By undertaking studies on the legal, social, political, economic and cultural issues related to the digital economy, social science and humanities researchers can help Canadians better understand the implications of living in the digital world. The Federation supports greater interdisciplinary research and inter-sectoral collaboration aimed at helping Canadians succeed in their transition to a digital nation.

1. Capture data on how Canadians currently use – and would like to use – network services. Some funds should be directed at strengthening existing databases and research while other funds should enable social science and humanities researchers to continue to work closely with local communities (urban, rural and remote) to assess their next-generation information and communications needs.
2. Mobilize the expertise of the social sciences and humanities research community to advance understanding of innovation, innovation systems and industrial clusters, and to maintain a strong, informed policy capability as it relates to the digital society.

DEVELOPING DIGITAL SKILLS: The ability to locate, organize, understand, evaluate, create and share information should underpin a national strategy to ensure Canadians have the skills needed to engage and succeed in the digital economy. Canadians must acquire digital skills – not just learn specific applications or technologies. The Federation encourages the federal government, provinces and stakeholders at every level to mobilize to develop nimble, flexible education and learning models. As both content creators and content users, social sciences and humanities researchers and scholars can help provide leadership to achieve Canada’s goal for education, skills development and policy as they relate to the digital economy.

1. Building on evidence-based research about digital society, the Federation recommends that stakeholders and governments at all levels mobilize to implement specific programs that support educators and learners as they co-create new digital learning environments to facilitate interaction, engagement and improved learning outcomes.

7. Acknowledgements

The Federation wishes to thank the members of its Task Force on the Digital Economy for their time and insight:

- **Gerald Beasley**, University Librarian, Concordia University
- **Leslie Chan**, Senior Lecturer and Program Supervisor, Joint Program in New Media Studies and International Development Studies, University of Toronto Scarborough
- **Michael Eberle-Sinatra**, Associate Professor, Département d'études anglaises, Université de Montréal
- **Monica Fazekas**, Director, Music Library, University of Western Ontario
- **J. Adam Holbrook**, Adjunct Professor and Associate Director, Centre for Policy Research on Science and Technology, Simon Fraser University
- **Elizabeth Judge**, Associate Professor, Faculty of Law, University of Ottawa
- **Catherine Middleton**, Canada Research Chair in Communication Technologies in the Information Society, Ryerson University
- **David Mitchell**, Associate Dean, Research and Graduate Programs, University of Calgary
- **Michael Owen**, Associate Provost, Research, University of Ontario Institute of Technology
- **Jay Rahn**, Professor, Department of Music, York University (Chair of the Federation's Copyright Committee)
- **Graham Reynolds**, Assistant Professor, Faculty of Law, Dalhousie University
- **Jane Tallim**, Co-Executive Director, Canadian Media Awareness Network
- **Christian Vandendorpe**, Professor, Département de français, University of Ottawa
- **Ian Wilson**, Director, University of Waterloo, Stratford Campus
- **David Wolfe**, Professor, Political Sciences, University of Toronto Mississauga
- **Sha Xin Wei**, Canada Research Chair, Media Arts and Sciences, and Associate Professor, Fine Arts and Computer Science, Concordia University