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OECD-Canada Technology Foresight Forum on the Participative Web: Strategies and policies for the future
Summary

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TABLE OF CONTENTS

FOREWORD

1. The Internet is characterised by increased participation and interaction of users to communicate and express themselves, driven by an expanding broadband base and easy-to-use software to create and distribute content. New collaborative web services are enabling users to contribute to developing, rating and distributing Internet content and developing and customising Internet applications. These new uses of the Internet's capabilities for creation and exchange are often described as the "participative web".

2. On 3 October 2007 the OECD ICCP Committee held its third Technology Foresight Forum in Ottawa, hosted and co-organised by Industry Canada, on "The Participative Web: Strategies and Policies for the Future". The full agenda of the Forum with links to presentations is provided in the Annex.

3. The Participative Web Forum featured 50 invited speakers and chairs and 270 participants. Presentations and discussions on Creativity, Confidence and Convergence were designed to contribute to the OECD Ministerial Meeting on "The Future of the Internet Economy", Seoul, Korea, 17-18 June 2008. Participative web tools used included web-streaming, video podcasts, conference blogging, and questions from remote audiences and the Forum featured demonstrations of participative web applications. The OECD study on the 'Participative Web and User-created Content: Web 2.0, Wikis and Social Networking' was the background report. More detailed information, videos, archived web streams, presentations, full transcripts and speaker details are available at www.oecd.org/futureinternet/participativeweb.

4. This summary is based on and extends the concluding presentation of the Chair of the Policy Roundtable, Professor Michael Geist (see website transcript for the full presentation), and the presentation by the Canadian Delegation to the ICCP Committee on 4 October 2007 (see Annex).

5. The Forum suggested possible topics for the 2008 OECD Ministerial Meeting on "The Future of the Internet Economy". It also explored areas for future work, to be considered in conjunction with "Proposals from Delegations on future work on the participative web: User-created content" [DSTI/ICCP/IE(2006)7/ADD].

6. The document is in four parts:

- Summary.
- Part 1: Main developments and areas of change.
- Part 2: Areas where government roles were discussed.
- Part 3: Issues where there were different views and/or where further work is necessary.

SUMMARY

7. Participation, collaboration and more open approaches to economic and social activities are encouraged by more widespread use of the Internet. The OECD-Canada Technology Foresight Forum on the Participative Web explored and analysed how Internet-based participation and collaboration are developing, their impacts and implications for policy. The Forum conclusions are presented below.

8. Economic and social relations are being changed by developments in the Internet's architecture, new software and high-speed broadband. The Forum addressed these changes and their implications around the themes of creativity, confidence and convergence. Sessions dealt with the future of the participative web, its influence on innovation, research and knowledge-creation, its impacts on users and citizens, on governments and democratic processes, and the challenges that come from its use (see Part 1).

Opportunities and challenges

9. The participative web is having significant and growing impacts. The Forum emphasised the potential of the participative web to better organise, structure and make accessible content and information from widely distributed sources. The 'anarchy' of the participative web provides a low-cost test bed with a multitude of implications for business, social organisation and social change. But concerns about change and attempts to exercise greater control over the open and participative nature of emerging applications may stifle development while not necessarily addressing new challenges.

10. Users are becoming increasingly skilled in creating, transforming and sharing content. While some of this activity is for recreation and entertainment, there are more profound changes in social participation, civic life and political processes, as well as in business. But so far a minority of very active users are fully using the participative web. The majority are consumers or are not participating at all. It remains to be seen whether a larger proportion will be creators as high-speed connections become widespread and tools easier to use, and the implications as the participative web becomes main-stream.

11. A major theme was how to deal with transformative content creation, innovation, greater openness and access while assuring the rights of creators. Challenges raised during the Forum included issues surrounding copyright infringement, doubtful, misleading and illegal content, and privacy. Many users are more willing to reveal their personal information, possibly a sign of changing user behaviour, but possibly also of users being unaware or careless with their information. Users also face new kinds of lock-ins on more commercial content-sharing platforms and social networks.

Business

12. The participative web is a major catalyst for business content creation, entrepreneurial activity and investment. Participants pointed out that this new wave of economic activity is different from the Internet bubble years. Now high-speed Internet access is widespread, online advertising models are working, venture capital valuations are lower, and there are fewer initial public offerings and less stock market churning. However measuring the economic impacts of the participative web on value-creation, productivity, output and employment and other economic measures are ongoing challenges.

13. It is unclear how participative web businesses will evolve. Everything seems possible, but there is uncertainty where commercial value will be created, what business models will develop and how market structures will evolve. Firms will need to develop new ways of driving innovation with the creativity of users, employees and external sources of ideas. And many firms are wary of disrupting established business models and approaches, and walled-garden strategies are prevalent despite talk of openness.

14. The shift in advertising revenues towards the Internet in general, and the participative Web in particular, is having significant impacts on entertainment, media and marketing, and new advertising and pricing models will use behavioural information to more precisely target markets and customers. There is also scope for new business alliances between firms that have not traditionally collaborated (*e.g.* Internet portals and consumer product firms) and for new entrants into fields dominated by other sectors (*e.g.* online search services in news or wireless broadband access).

Science

15. The participative web also brings changes for science even if science has always been very collaborative and international in organisation. Science and research are developing local and international online communities and setting up virtual laboratories, research centres and organisations. Funding structures, developing the necessary skills, and organising new more 'virtual', computation-intensive and participative science were debated. The many promises and challenges raised in the area of science and research deserve a separate forum of their own.

Government

16. Government interaction with participative citizens is still in its infancy. Interactive platforms are needed to encourage more participative public deliberation, e-consultations, Internet roundtables and engagement that are very different from simply using the Internet as a platform to deliver government services to citizens in remote regions. Governments also need to improve online interfaces so that citizens can access the wealth of government data and develop new and creative ways of using these data.

17. Impacts on democracy, political processes and elections are growing as evidenced by the web presence of politicians on social networks and in virtual worlds and political activism of user-groups. There are widespread hopes for more 'representative democracy', although the technology itself is not inherently democratising or leading to equal participation. Identifying and encouraging real progress towards greater and more representative involvement will need more attention.

Innovation and growth

18. The Forum discussed government roles in stimulating Internet innovation and associated economic growth (see Part 2). Rapid rollout of optical fibre and wireless Internet are seen as essential. A major challenge is to find new ways of financing very large infrastructure investments if pricing is not based on bandwidth use. Some participants suggested that governments should provide broadband as a public good in the same way as, for example, roads. More globally, many non-OECD countries are still struggling to achieve basic Internet access and viable strategies to raise availability and use.

Outstanding issues and new roles for policy?

19. Clear government roles were identified in some areas. Some continue established ICT policies, *e.g.* ensuring network access, diffusion to individuals and protecting privacy, and some are newer, *e.g.* new R&D support schemes, media literacy and cultural policies, and the critical importance of open and interoperable standards and formats for the Internet and widely used applications.

20. Some areas require more analysis to determine appropriate government roles, the balance between users, business and government, and between regulation and self-regulation (see Part 3). These included: developing innovative ways to reward content creators and combat digital piracy; the use of customer information by marketers; the control by Internet service providers over which participative websites their customers visit; and whether governments should regulate the Internet in the same way as traditional broadcasting. It became clear that the issue of network neutrality could play an even larger role in the future. On the other hand it was unclear how to promote information quality and if governments should play a role (*e.g.* provide a digital 'public service'?).

21. Competition is a major and increasingly important area according to some participants, because of large network effects and different forms of vertical integration. Consumer issues are also increasing in importance with the development of new market structures, new efforts to control and protect content, new types of consumer services and the implications of behavioural advertising, all having important effects on consumers and raising new issues for consumer policy.

22. Overall, participants called on the 2008 OECD Ministerial Meeting on "The Future of the Internet Economy" to begin to deliver analysis and policy responses to these challenging questions.

1. MAIN DEVELOPMENTS AND AREAS OF CHANGE

23. With the rise of the participative web, the Internet landscape is changing rapidly and affecting all sectors of the economy and society. With more than one billion people online, the Internet is a major economic, social and political force and is continuing to expand as the economy becomes the Internet economy.

24. Individuals and businesses are creating new demand for Internet services and defining new ways to use the Internet. Rapid growth in participation in social networking, content sharing and blog sites and the advancement of collaboratively developed platforms and news aggregators are some of the many features of this growth. This transition is characterised by higher speed connections, persistent interaction and greater immersion, multiple media streams, and higher quality software and hardware,.

25. For users, businesses and governments, the participative web is a major opportunity for low-cost experimentation and new ways to create, distribute and access content. It is a medium for collaborative efforts for increased participation and diversity with features including:

- New platforms are emerging, including mobile access, to complement and extend the large base of PC-centred which participative web services and functions.

- The reach of participative web services which is very large, with audiences for online video sharing sites and virtual worlds becoming far greater than cable-TV audiences.

- The fact that it is widely seen that "digital natives" and younger age groups are more participatory on line, create and share more interactive content and have different usage profiles from older age groups.

26. Institutional, legal and organisational innovation involving governments, entrepreneurs and citizens are part of the participative web. However the participative web is developing in new and unknown directions, and there are concerns that attempts by businesses or governments to assert tighter control over some aspects of development could stifle change.

Societal impacts

27. The social impacts of the participative web are only starting and remain ill-understood but it is clear that the participative web has much wider impacts than on markets and commercial development and use. It is helping to change government, politics and civic life and provides the potential for much greater participation, collaboration and communal activity built around common and diverse interests.

28. The changes in associational and political life are already considerable, encouraging new forms of political participation and activism and greater involvement, and in some cases helping to create new types of public access to knowledge and fora for expression.

29. The participative web can encourage multilingualism, multiculturalism and greater development of local cultural content and information. Its user-driven characteristics and easy-to-use tools enable a wide array of national, sub-national, regional and special interest language and cultural sites.

30. New forms of governance of Internet and user activities are emerging on the participative web (*e.g.* organisational structures such as peer review and rating to structure user activities and guarantee quality output such as on Wikipedia). These may converge to one model, or a multiplicity of governance forms may persist and possibly further diversify.

31. Privacy issues loom large on the participative web. Active participative users and younger age groups often seem to have a different approach to, and understanding of, disclosing and sharing personal information. Is this a shift in values or simply the inability to judge the potential risks of open behaviour in the new wider online world?

Business impacts

32. New businesses and entrepreneurial activity are major features of the participative web and existing businesses are under pressure to invent or adapt business models for this new environment.

33. Investment in participative web services is growing strongly. Venture capital funding of Web 2.0 businesses has increased significantly and has been one of the major areas of venture capital growth. However there are marked differences to the bubble years of 1999-2000: advertising has enabled online businesses to begin monetising their audiences; venture capital valuations are more conservative, with the average valuation for Web 2.0 companies in the United States in 2006 about one-third of average valuations in 1999-2000; and the number of initial public offerings and associated exits has been relatively limited.

34. The participative web is a factor encouraging changes in business strategies and organisational structures, enabling the 'extended enterprise' and open innovation, and potentially increasing the flow of new goods and services. Costs of collaboration are declining, opening up possibilities for greater productive use of external knowledge, external skills, and external sources of value. Individuals and consumers can co-create services, products or information, businesses can use online communities to help advance R&D and commercialisation projects, and there is a potential for services such as Second Life to merge with established online services such as mapping or local search, bringing about new waves of innovation.

35. The participative web also has the potential to consolidate markets by aggregating existing activities and creating commoditised products. Information businesses which were the only suppliers of their products (*e.g.* newspapers, retail stockbrokers) are challenged by these new developments. A key feature of new business models is to serve as a platform and service provider, hosting customer reviews, and providing access to other customer information,

36. Some consumer product companies have been very good at creating communities of users to get new product ideas and feedback on existing products and to inform product development and research. Better information on consumer needs and interests can also improve product development and reduce marketing costs. However the use of participative sites for better market research is only beginning.

37. Other businesses are placing greater importance on web technologies that enable automation, networking, both internally and with their customers, and collective intelligence tools. Many big businesses have large-scale Internet applications built inside their firewalls (banks, etc.), and the next wave of applications will come with their spread to users.

38. Virtual worlds and user-created content are already growing and generating economic activity. Major questions remain as to where this economic activity will lead, how it will co-exist with real world activity and how sustainable it is and how it will be financed.

39. *Online advertising* is likely to be the main source of revenues, and is expected to continue to grow rapidly. This shift in advertising revenues to the participative web is likely to have large impacts on established advertising in the entertainment, media and marketing industries. However, current online advertising revenues of participative web services are still low, and the question remains how Web 2.0 businesses can become profitable.

40. The profiles, information and exchanges on Web 2.0 sites offer large amounts of information for targeted (and potentially intrusive) advertising. Marketing messages and models, *e.g.* price discrimination, will change as more demographic information on users is gathered and as behavioural targeting develops. Permission marketing (*i.e.* using consumer data on an opt-in basis in a qualified and transparent way) can also be valuable to consumers and to businesses who value tailored information.

41. *Subscription-based* online business models have worked for some businesses (*e.g.* online games) but not for others (*e.g.* newspapers). The experience of the music industry has shown that it is very difficult to develop a viable business model selling digital downloads. Selling the content as part of subscriptions is one solution, either stand-alone or bundled into other subscriptions to Internet service providers, mobile phone services or to participatory spaces such as virtual worlds. Other traditional businesses may finance the distribution of entertainment products and other sorts of information services to create their branding for distribution in a new environment (*e.g.* a sport shoe manufacturer offering free music on its web site).

42. Overall it is difficult to know how businesses and markets will develop or what business models will be successful as profound shifts in interaction with users and consumers and among businesses create uncertainty for established business models, and in many cases it is still not clear where commercial value will be created. But in all cases, the market place is sending strong signals for greater content and device interoperability among various new business models, *e.g.* in tackling problems with the implementation of digital rights management.

Science and research impacts

43. The participative web is bringing profound changes to how science is conducted and research results disseminated, with associated implications for the collaborative research infrastructure.

44. Computing and computer science continue to have major impacts on other sciences in terms of new modelling and simulation techniques, expanding the range of "in silico" experimental research. The physical and life sciences increasingly rely on computer science to reduce the time to develop new scientific insights and expand the scope of enquiry.

45. New computer techniques can enhance scientific workflows by more effectively bringing models and data together. Technologies such as sensor networks can bring real world data into theoretical models and large amounts of persistent distributed data can be stored and used in experiments and simulations. There is great potential for example for pharmaceutical companies to model the effects of drugs on human beings by using abstract software models and mathematical notations to describe dynamic systems.

46. Scientific research is increasingly focusing on developing communities around new research infrastructures as opposed to co-located research centres. Web 2.0 technologies are being used by scientists to create virtual organizations (including with non-scientific participants), linking scientists in different laboratories together, combining their human and data resources and access to facilities in many new ways.

Data mining involving distributed datasets of various research groups and users can also expand ways of conducting scientific research.

47. The participative web is democratising science and will potentially allow a greater community to participate in research, scientific activities and fostering more open access. Digitised scientific data is becoming more accessible enabling the public to take this data and run models and analysis. Blogs, wikis and other new participative media enable faster exchange and transfer of research results and scientific advance among and from academia and the research community as opposed to waiting for paper and journal publication. At the same time, the amount of new scientific information is doubling every two years possibly leading to cognitive overload.

48. The balance between openness and proprietary information at different phases of the research cycle is also potentially changing. Data sharing, projects such as the Science Commons (*e.g.* optional licensing approaches), and open patenting are emerging.

49. Despite these potential benefits, there are continuing and new issues related to: financing new participative research infrastructures; education, training and skill formation; developing and using new computation-intensive collaborative research approaches; developing appropriate standards for collaborative computation and research; and developing new cross-border governance arrangements for international collaborative research. Outstanding questions include:

- What metrics are needed to measure the impact of the infrastructure on scientific production and innovation?

- Will governments recognise that the processes to establish such infrastructure may be different from the competitive processes appropriate to determine the allocation of research funding?

- How can scientific communities be encouraged to use the infrastructures available to a much greater extent? More importantly, how can scientists have a greater say in determining how research infrastructures develop.

- How to encourage the right balance of skills between core scientific disciplines and being able to work with the most recent computer science techniques?

- What is the right balance between open source and proprietary management of data, research findings and publications? How to set up incentives and a reward structure for science which lend themselves to science 2.0, sharing research results and avoiding a culture of secrecy? How should firms balance commercial interest with scientific collaboration and openness?

- How can the democratisation of science and the emergence of new publication tools be married with a quality control?

- The question arose whether a 'WTO' is needed for science 2.0 to help foster acceptable behaviour, the way research is conducted, what access is granted, and how interoperability is ensured? The *OECD Principles and Guidelines for Access to Research Data from Public Funding* were mentioned as a very good start.

Government impacts

50. The participative web allows more information on, and greater engagement with, political processes, potentially changing political debate and enlivening representative democracies. Elected

officials and aspiring politicians are increasingly aware of the power of the participative web in elections and for political exchange.

51. The web has helped make more information available (bills sponsored by politicians, votes taken, funders of political campaigns, etc.). Citizens can access rich and hitherto unavailable information and analysis from specialised participative web sites and content created by other users, making them less reliant on traditional media networks or government sources. New platforms, with more information available on specialized interest topics help citizens understand complex societal and political topics, and become more informed and involved.

52. However, the technology itself is not inherently democratising. It is only an enabler. As such governments still need to work out how they use these new capabilities. For example, governments can provide application interfaces to enable citizens to access the wealth of government data, and encourage new and creative ways of using these data. Platforms are needed which allow for public deliberation, e-consultations, Internet roundtables and engagement, not just treating the Internet as a one-way delivery platform.

53. The participative web facilitates sharing and transferring responsibility between governments and citizens, enabling citizens to become stakeholders of political decisions and governments to become facilitators as opposed to unilateral decision makers. Individuals can also become active in the decision making process thereby taking responsibility for these decisions, enhancing the ability to work across organizational boundaries. This has the potential to increase transparency, reduce corruption, and improve democracy and the relationship between government and the public.

54. The way in which government engages with the new participative citizen needs to be re-considered and the question of how governments can ensure that policy processes and consultations keep pace with the participative web merits greater attention.

55. Political institutions (parliaments and representative institutions) have not yet invested enough to make their work more participative, and the political culture and the institutions themselves may need to change more. The question remains if governments and citizens are ready for these changes.

2. RE-EMERGING ROLES FOR GOVERNMENT

56. The participative web introduces so many new market and potential regulatory issues that policy thinking in many areas will need to start afresh, similar to the case for the OECD Ministerial on E-Commerce in 1998.

57. It is a challenge to balance the need to govern efficiently, effectively and fairly, with the opportunities presented by the participative web, how quickly and unpredictably they change, and their international dimensions. Governments need to be responsive to changes, but cannot necessarily predict them. Better understanding of the long-term implications of disruptive trends is necessary before jumping to legislation and policy changes. In some cases, self−regulation will continue to be appropriate.

58. Governments were seen to have a (re)-emerging role in the following areas:

- Preserving and strengthening freedom of choice by promoting competition, reducing barriers to entry and providing an environment that encourages innovation.

- Improving affordable and widespread infrastructure access to high speed networks (including wireless), closing broadband gaps, and addressing new digital divides (including in non-OECD countries where access is low) will increase participation in this new wave of innovation.

- Considering the role for government investment in network infrastructure and whether broadband is public infrastructure (*i.e.* a public good) akin to roads.

  - Greater government involvement in providing broadband infrastructure as a public good hinges on making the right technological choices for particular country geographies, and on getting the economic and business climate right for infrastructure providers. Public investment in Japan and Korea, for example, seems to have led to greater broadband usage.

  - Policymakers need to find ways to encourage investment in higher speed networks and to find innovative ways to encourage and assist those investments.

  - Traffic congestion and ways to reduce the strain on existing networks (*e.g.* through the use of peer-to-peer systems) were debated.

  - ICT security concerns are on the rise (*e.g.* malware) and need policy attention.

- Developing legislative and regulatory schemes that take account of the convergence of telecommunications and content creation. For example how to better deal with the regulation of linear versus non-linear services and how to ensure technological neutrality. Why, for example, should local radio stations be tightly regulated as opposed to Internet content platforms? Should regulations on traditional broadcasters be transferred to the Internet?

- Broadening the use of the participative web:
  - Access to the participative web is not widespread, and in many countries is limited to the digitally or technologically literate. An important question is how democratic is the participative web?
  - How to move use of the participative web beyond early adopters, including in non-English speaking and non-OECD countries? What are the right incentives to encourage participation?
  - How to ensure on-line complementarities between the work of professionals and amateurs?
- Strengthening their role in helping users protect their privacy.
- Fostering employment, skills and new types of media literacy:
  - How does the participative web affect skills and employment and what should policymakers do in this respect. What skills and training are necessary?
  - The education system will need to adapt to the new environment and be more relevant. Children are engaging in designing and creating, but often feel that school content is too rigid and it does not let them explore ("*The school is getting in the way of my education*").
- Strengthening R&D and innovation in content, software and hardware, as well as developing human resources for content and venture capital where it has not yet developed.
- Improving access to research, education and public information – including fostering cross-border access and interoperability.
- Reviewing cultural policies in the light of citizen participation and new forms of digital content (*e.g.* preservation of languages, creating cultural repositories).
- Increasingly important is standard-setting (in international organisations? or "at the international level"?) to ensure interoperability. Governments have a role in pre-commercial standards.
- Improving measurement of the social and economic contribution of the participative web. How is value creation picked up in established systems of economic indicators?

59. The impact of the Internet on health care systems is a major issue for governments which was not addressed in detail despite its importance. There is a rapidly growing role for more participative approaches in health care supply chains and in developing, supplying, sharing and using health information and in developing health policy.

3. NEW DIRECTIONS AND FUTURE ISSUES

60. There were a number of critical issues on which no consensus was reached. Some of these challenges are global, needing international approaches to resolving them. It was suggested that the OECD can provide an important forum to address these "elephants in the room" as part of the 2008 Ministerial Meeting on the Future of the Internet Economy or as part of future work. Issues include:

- Pax Informatica: Rich databases and preserving information:
  - There are thousands of databases of valuable information, each of them with different conditions, formats, access privileges and goals which may reduce access and use.
  - A challenge is to ensure that databases and knowledge repositories are interoperable and not 'digital enclaves'. If databases do not work together then the value of access to greater knowledge through the participative web is reduced.
  - Another challenge is to avoid information decay (for example due to lack of long-term archiving of digital information, or to formats which may not endure).
  - These challenges are relevant to the whole participative web and new interactive databases and knowledge repositories.
- There are issues of information quality if information production is solely steered by what attracts most attention/eyeballs and online advertising revenues. Some high quality but labour-intensive information may see a low return on investment (*e.g.* independent news). How can the survival of such high-quality content production be ensured? Is there a role for governments in providing high quality information in the context of a 'digital public service'.
- What is the role of governments in content regulation or information quality on the Internet? Some saw minimum quality requirements such as the ban of child pornography, for example, as government roles. Others advocated a more activist government role, *e.g.* in preventing children from accessing certain information, and, in general, to police participative web content to a greater extent.
- Network neutrality concerns were raised and how to avoid discriminatory traffic shaping at the expense of users or entities that cannot afford high upload fees.
- There was considerable discussion of the most effective balance between open source and proprietary approaches to platforms, tools and content.
- Innovation and intellectual property:
  - There was discussion of the nature of creativity and inter-generational equity among creators: every creator, every author, builds to a greater or lesser extent on pre-existing material as a source of inspiration, and she/he uses building blocks from something existing.
  - Other users build new services (search tools, content aggregators, recommendation engines) on pre-existing works and material that may be IPR-protected. Platform providers themselves

may also offer value-added products. As the social and commercial nature of content generation changes, questions arise about who owns what and how far ownership extends.

- The participative web has renewed the question of how to remunerate content creators and the balance between the free flow of information and the protection of the rights of content creators. There is also a big gap in understanding how those who create web content are rewarded, with creator's rights and payments still not resolved.

- How can remuneration systems be designed to be fair and just for participative artists? New ways of rewarding creators (collecting licensing agreements, ISPs collecting a small blanket fee *e.g.* as part of broadband subscriptions?) have been suggested.

- Are current legal approaches surrounding 'fair use/fair dealing' appropriate and do they provide enough legal certainty, especially when the activity is related to freedom of expression and democratic participation? The feeling was that the current uncertainty could be a barrier to further innovation and content creation.

- How to address the concern of digital piracy and infringing IPRs and protecting the rights of traditional content creators more effectively? What are appropriate tools? Can filtering and monitoring of participative sites and content help?

- Some Web 2.0 platforms have begun issuing copyrights to creators, but are these enforceable including outside the national jurisdiction in which the site operates?

- Should governments legislate with respect to technological protection measures? When they do, how should they create the conditions for a participative environment?

- When it comes to limitations and exceptions to copyright for libraries, teaching, etc., governments play an important role in shaping the legal framework. Should the existing exceptions be broadened?

- Questions around safe harbours and liability of intermediaries included:

  - How should liability and responsibility be distributed when intermediaries proliferate and when there are so many participating? How should the responsibilities of UCC creators and UCC platforms be balanced?

  - To what extent should platforms be responsible for combating infringement, counterfeiting, theft or fraud? Should platform providers be required to police their sites? Some argued that the closer the platform provider is to the content offered on the platform, the more it should be under an obligation to check the content it is hosting. However the practical burdens and legal difficulties seem large.

  - If there is some sort of regime, like a notification regime ("notice and take down"), who exercises decision authority on what to take down?

  - Some argued that successful Web 2.0 companies could not have developed if they had not been protected by safe harbour provisions or laws protecting publishers from liability.

  - In what way is uncertainty in dealing with IPR issues stifling innovation? National differences in dealing with these issues were seen as a barrier to the development of global online services and a problem for online service providers.

- Competition policy and network effects:
  - Given large network effects, competition is an area where policymakers might have to step in sooner rather than later. There will be continuous incentives for horizontal or vertical integration and concentration. Search services, for instance, are diversifying into chatting, videos, IPTV and other services. Anti-monopoly policy has the means to restore competition, but market competition is also important (*e.g.* demand of users for open environments, contestability of markets through low barriers to entry).
  - The possibly monopolistic role in access to content by Internet service providers and the dangers of abuse of power were raised. What are appropriate government actions?
- Consumer issues:
  - Terms and conditions of platforms are usually not read and sometimes do not conform to legislation, but users still sign them. What are the implications for self-regulation and government roles?
  - Avoiding lock-in and reducing switching costs may be the best guarantees against abuse of monopoly position. But how can these be achieved?
  - Given the anonymity of users safety issues were raised in the context of social networks.
- Digital identity and privacy:
  - A consensus emerged that governments have a role in reaffirming the importance of privacy and existing legislation on the participative web, but what is the correct balance between privacy, anonymity and accountability? While privacy is important, some speakers pointed out that total anonymity is not healthy either.
  - Users need to be better informed on what happens to information that they provide. End user agreements and/or privacy policies are often not understood or read by users. The sometimes lax access default settings on social networking sites were questioned. Potential problems may also arise when trustworthy sites are acquired or effective control changes hands where there are ensuing changes in information use.
  - Should the market alone decide? Consumers can defect to other services if privacy is not respected. Is this a sufficient incentive for firms to protect privacy?
  - Often the problem seems to be inadequate enforcement of existing privacy legislation. How can governments better enforce existing privacy legislation on the participative web – especially in the context of increasing cross-border data flows? Is the answer in implementing and enforcing and harmonising existing rules on international collaboration? What is the role for mandatory disclosure laws on security breaches?
  - There are benefits to interoperability if they enable customers to switch services when they feel that their privacy demands are not being met. What is the best way of promoting interoperability between social networks to avoid customer lock-in and control of personal information?
  - Should real name systems be used on the Internet so that one can post on Web 2.0 platforms only when one identifies one's real name?
- The conduct of science and the development of skills and investments were debated. Government roles and appropriate measures need to be identified (see section on science and knowledge).

- The way in which government engages with the new participative citizen needs to be considered and needs more attention (see section on government impacts).
- Globalisation of the Internet:
  - Business participants acknowledged the need for but the difficulty in complying with the increasingly national (Internet) laws in which they operate. Overlapping jurisdictions and heterogeneous regulations slow development of online business and the participative web.
  - Participants raised questions regarding the globalisation of the Internet and its global governance. According to some participants, globalisation associated with the Internet seems to be grinding to a halt in many areas. Ten years ago institutional developments took place for example in the WTO, WIPO, etc. but this has slowed. Is this absence of international approaches a barrier?
  - Some speakers suggested that the Internet by its very nature resists international regulation. Informal mechanisms have proved their worth and it is important to consider how to better support them, how to develop interoperable solutions which respect different cultural norms and national legal paradigms, and how to avoid concentration of power, particularly in separate but inter-linked areas.

ANNEX

OECD-Canada Technology Foresight Forum: Agenda

OPENING: WELCOMING REMARKS AND INTRODUCTION

- Michael Binder, Assistant Deputy Minister, Spectrum, Information Technologies and Telecommunications, Industry Canada
- Susanne Huttner, Director, Science, Technology and Industry Directorate, Organisation for Economic Co-operation and Development (OECD)

Facilitator: John Oxley, Vice President, Canada's Association of Information Technology Professionals

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SESSION 1: THE FUTURE OF THE PARTICIPATIVE WEB: CONVERGENCE AND DIVERSITY?

Chair: John Lettice, Co-founder and Editorial Director, The Register

- Jonathan Taplin, Professor, University of California
- Cyrus Beagley, Associate Principal, Media Practice, McKinsey
- Ginsu Yoon, Vice President, Business Affairs, SecondLife
- Michael Gill, Chief Executive Officer, Fairfax Business Media

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SESSION 2: CREATIVITY AND THE INTERNET ECONOMY: BUSINESS AND SCIENCE

STREAM A
Business 2.0 and innovation: Business use of the participative web
Chair: David Crane, Global Issues Columnist, Toronto Star

- Bob Young, Founder, Lulu.com
- Anthony Williams, New Paradigm and Author of Wikinomics

- Paul Misener, Vice President for Global Public Policy, Amazon.com
- Daniel Bretonès, Professor, ESCEM School of Business and Management,France
- Shenja van der Graaf, Media@lse, London School of Economics

STREAM B
Research 2.0: e-Science and new ways of interaction in the science community
Chair: Walter Stewart, Walter Stewart & Associates Inc.

- Andrew Herbert, Managing Director, Microsoft Research, Cambridge, UK
- Bill St. Arnaud, Senior Director Advanced Networks, CANARIE Inc.
- Mario Campolargo, Head of the Unit "GEANT & eInfrastructures", Information Society and Media Directorate-General, European Commission
- Diana Rhoten, Program Director, Office of Cyberinfrastructure, National Science Foundation

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LUNCH KEYNOTE: Robert Sutor, Vice President for Open Source and Standards, IBM

SESSION 3: CREATIVITY AND THE INTERNET ECONOMY: USERS, GOVERNMENTS AND CITIZENS

STREAM A
User-created content: What are the impacts?
Chair: Michel Leblanc, Analyweb Inc./blogger

- Jungwook Lim, Vice President for Service Innovation, Daum Communications, Korea
- Andres Monroy-Hernandez, MIT Media Lab, Lifelong Kindergarten Group
- Jennifer Corriero, Executive Director, Co-founder of TakingITGlobal
- Manon Ress, Director, Information Society Projects, Consumer Project on Technology

STREAM B
Government 2.0: Engaging citizens to deliver better policy and improve democracy
Chair: Ellen Miller, Co-Founder and Executive Director, Sunlight Foundation

- Don Lenihan, President and Chief Executive Officer, Crossing Boundaries
- Alejandro Hernandez Pulido (unable to attend), Chief Operating Officer, e-Mexico National System
- Wolfgang Blau, Journalist, political correspondent US Elections and Media Expert
- Quitterie Delmas, Editor AGORAVOX and political blogger, French presidential elections

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SESSION 4: CONFIDENCE AND COMPETITION IN THE INTERNET ECONOMY: OPPORTUNITIES AND CHALLENGES OF THE PARTICIPATIVE WEB

STREAM A
Creation, access and competition
Chair: William New, Editor-in-Chief, Intellectual Property Watch

- Kiyoshi Mori, Vice Minister Policy Coordination, Ministry of Internal Affairs and Communications, Japan
- Urs Gasser, Director, Research Center for Information Law, University of St. Gallen and Fellow, Harvard Berkman Center for Internet & Society
- Anne Bucher, Head of Unit, Information Society and Media Directorate-General, European Commission
- Martin Senftleben, Professor of Intellectual Property, Free University of Amsterdam

STREAM B
Confidence, privacy, and security
Chair: Hugh Stevenson, Deputy Director, Office of International Affairs, Federal Trade Commission, US

- Gary Davis, Deputy Commissioner, Office of the Data Protection Commissioner, Ireland
- Mozelle Thomson, Chief Privacy Officer and Head of Global Public Policy, Facebook
- Jennifer Mardosz, Vice President of Business & Legal Affairs, Fox Interactive Media (parent company of MySpace)
- John Lawford, Counsel, Public Interest Advocacy Centre, Canada

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SESSION 5: POLICY ROUNDTABLE: OPPORTUNITIES AND CHALLENGES FOR POLICY

Chair: Michael Geist, Canadian Research Chair of Internet and e-Commerce Law

- Sangwon Ko, Vice Chair of the OECD Working Party on the Information Economy, Executive Director, Division of Information Industry Research, Korea Information Society Development Institute
- Marc Rotenberg, Executive Director, Electronic Privacy Information Center and Public Voice
- Daniela Battisti, Vice Chair of the OECD Information, Computer and Communications Policy Committee and Director, Public Agency for Economic Development, Italy
- Joseph Alhadeff (Oracle Corporation), Chair ICCP Business and Industry Advisory Committee to the OECD
- Keith Besgrove, Chair OECD Working Party on Information Security and Privacy and First Assistant Secretary, Department of Communications, Information Technology and the Arts, Australia
- Neil Anderson, Head of Telecommunications, Union Network International, Trade Union Advisory Committee to the OECD

CONCLUSIONS AND PRIORITY-SETTING FOR THE OECD
Richard Simpson, Chair of the OECD Information, Computer and Communications Policy Committee and Director General, Electronic Commerce, Industry Canada

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Independent conference bloggers:

- Richard Akerman, Technology Architect at the National Research Council Canada Institute for Scientific and Technical Information
- Kieren McCarthy, General manager of public participation for the Internet Corporation for Assigned Names and Numbers (ICANN)

Presentation of the Canadian Delegation to the ICCP Committee, 4 October 2007

Programme

- **Session 1: THE FUTURE OF THE PARTICIPATIVE WEB: CONVERGENCE AND DIVERSITY**
- **Session 2: CREATIVITY AND THE INTERNET ECONOMY: BUSINESS AND SCIENCE**
- **Session 3: CREATIVITY AND THE INTERNET ECONOMY: USERS, GOVERNMENTS AND CITIZENS**
- **Session 4: CONFIDENCE AND COMPETITION IN THE INTERNET ECONOMY: OPPORTUNITIES AND CHALLENGES OF THE PARTICIPATIVE WEB**
- **Session 5: POLICY ROUNDTABLE: OPPORTUNITIES AND CHALLENGES FOR POLICY**

'Ottawa Consensus'

- Profound changes are under way and yet to come in the economy and society, brought about by the participative web
- Not just business impacts
- Reinventing government, politics and civic life
- Challenge how to balance the needs to govern efficiently and effectively and fairly against the opportunities this set of technologies present and how quickly and unpredictably they change
- Difficult to assume what the market place and impacts will be and what policy should look like

Re-emerging roles for government

- Access to high speed networks (including wireless) and closing broadband gap, addressing new digital divides
  - Role for government investment in infrastructure?
- Improve access to research and access to education and public information
- Fostering new types of media literacy

Elephants in the room

High priority for Ministerial and Future work
No clear consensus

- Intellectual property issues
- New ways of rewarding creators (ISPs collecting blanket fee?)
- Questions around safe harbours and liability of intermediaries
- Network neutrality concerns
- Competition policy and network effects: monopolistic (?) role of access to content

Elephants in the room

- Interoperability and standards
- Digital identity, Privacy, and Control
- Intersection between the local physical reality and legal frameworks, and the global differences in cultures and laws
- Government role
  - Way in which government engages with the new participative citizen. Are governments ready?