

Digital-era policy making

Individual governments no longer possess sufficient scope, resources, information or internal competencies to respond effectively to policy needs in the digital economy

Making the shift to digital economy policy-making means mastering five imperatives: transparency, participation, internetworking, responsiveness, and informed

In policy webs, governments replace static, top-down models of policy-making with participatory models that broaden ownership and bring a broad range of participants to the table at all stages of policy-making

Building policy webs requires innovation in three areas: citizen-centric culture, flexible and internetworked policy-making structures, and continuous policy innovation

Policy webs must leverage the Internet by creating and using online tools that enable knowledge creation and community building among participants



D I G I T A L 4 S I G H T

Digital-era policy-making

Scorecard

Phenomenon

Digital-era policy-making

Description

An increasingly complex and uncertain social, political and economic environment is undermining the effectiveness of traditional approaches to policy-making. In the digital economy, translating shared visions of the future into effective policies and real-world outcomes require major shifts in:

- *Culture*: collaborate, engage citizens and share knowledge to create value and build legitimacy
- *Structure*: build multi-stakeholder policy to manage scale, complexity and uncertainty
- *Process*: innovate policy continuously to be responsive to the needs of citizens and the market

At the core of digital-era policy-making is an understanding that citizen-centric processes require active and informed participation by citizens themselves. Innovation in policy-making is driven by the adoption of *five imperatives* for digital-era policy-making:

- Transparency
- Participation
- Internetworking
- Responsiveness
- Informed participants

This case examines several best-practice innovations around the world to help policy-makers understand and engage the emerging model: the policy web. This case also provides 20 digital policy tools that enable policy-makers to bring the five imperatives to fruition.

Key Participants

Effective policy webs draw together a broad range of participants:

- Citizens
- Politicians
- Public servants
- Political parties
- Industry associations and businesses
- Civil society organizations
- Thought leaders
- Lobbyists
- Media

Scorecard continued...

Technology enabled change	Leveraging the power of the Internet to enable collaboration and knowledge creation among a broad network of stakeholders and citizen participants is central to the reinvention of policy-making. In particular internetnetworked technologies enable: <ul style="list-style-type: none">• Knowledge creation and sharing• Community-building and resource pooling
Success Indicators	Leading policy web success indicators include: <ul style="list-style-type: none">• Effective and legitimate policy leading to social stability and economic prosperity• An active and engaged citizenry• Accountable and effective use of technology in the policy development process• Broader participation in decision-making from the market and civil society• Greater knowledge sharing and diffusion• Improved transparency and openness• Increased responsiveness and flexibility in responding to leading policy issues and challenges
Perils	Perils include: <ul style="list-style-type: none">• National and international divides in citizen participation as digitally-enabled NGOs and citizens gain influence but the majority of voices remain marginal• Simplistic online voting schemes at the expense of more substantive deliberative models• Policy is over-determined by technological models and not sufficiently based on learning and judgment• Compromised privacy and data security• Event-driven policy-making undermines ability to formulate long-term, coherent policies• Reduced local democracy and accountability as power shifts to global institutions
Future State	Digitally enabled knowledge management tools allow governments to break away from isolated policy circles and develop systems to share information across departments and across borders. The five imperatives—transparency, participation, internetnetworking, responsiveness, awareness—shape a new, outward-looking policy culture and will encourage the growth of policy webs as a crucial resource for anticipating changes in the social and economic environment.
Key examples	<ul style="list-style-type: none">• USDA National Organic Standards Board• Scottish Parliament• Danish Board of Technology• Organization of American States• UN Biodiversity Clearing-House Mechanism

The policy web — summary

Individual governments no longer have sufficient scope, resources, information or internal competencies to respond effectively to the policy needs of a complex and fast-changing global environment. Policy-makers must now seek out new partners and participants to help identify problems and create innovative policy solutions. With a superior capacity for organizational networking and knowledge creation, policy webs are emerging as the leading organizational form for enabling greater innovation, agility and citizen participation in policy-making.

Policy webs are Internet-enabled networks of participants that contribute a broad range of skills, experiences, perspectives and resources to constitute an effective policy-making unit. Depending on the issue, policy webs draw participants widely from governments, international organizations, businesses and industry associations, think tanks, academic institutions, civil society organizations such as NGOs, associations, and religious groups, and the general public. The challenge is to move from static top-down models to agile networks that leverage and harness the capacity of a broader, more representative group.

Emerging policy webs examined in this case illustrate how new structures and processes are complementing the Internet's capacity to enable knowledge creation and community building. They also enhance democracy and improve policy outcomes. For example:

- Sophisticated Web-enabled databases used by the Organization of American States and the Danish Board of Technology's computer-assisted role playing games are enabling more informed and responsive policy-making processes. In both cases, digital tools facilitate knowledge creation and enable greater access to information by stakeholders and the public.
- The USDA's Web-enabled consultation process; the Scottish Parliament's online citizen forums; and the online clearinghouse designed to implement the UN Convention for Biodiversity are enabling participatory and internetworked approaches to policy-making. These innovations provide a platform for group activities that are difficult and expensive to organize in physical settings, especially with large numbers of participants.

In the digital economy, policy webs are emerging as a key organizational model to facilitate social stability and economic prosperity.

Adapting to the digital-era policy environment

Policy has traditionally been the means by which societies—through their governments—bring their founding principles and constitutions down to earth. Sometimes codified in law, sometimes less formally set out in direction-setting statements, governments make policies to turn ideas and visions into means through which they establish and maintain order, shape social and economic destinies, and promote justice among citizens.

While these policy aspirations endure, the complexity and intensity of change in the digital economy has overtaken conventional approaches to the way governments make policies. With globalization as the overarching backdrop, policy-makers are confronting an era of unprecedented volatility as the rules of engagement for citizens, business and government change.

Yet government-led policy-making is, for the most part, still a top-down broadcast model in which a select group of experts with access to privileged information discuss policy options and communicate decisions to the public via mass media. New technologies render that model obsolete.

The increasingly pervasive Internet makes powerful communications and knowledge-sharing tools widely accessible with three major impacts on policy-making process.

- Rising citizen expectations for involvement in and greater ownership of “their democracy” need to be met to avoid—and help mitigate—growing citizen disengagement from the democratic process
- Markets, civil society and citizens can establish robust, far-reaching networks to influence policy—or even make their own—outside of and disconnected from government
- Global economic, political and societal forces are wresting control over many policy issues and processes from national governments, markets and civil society participants

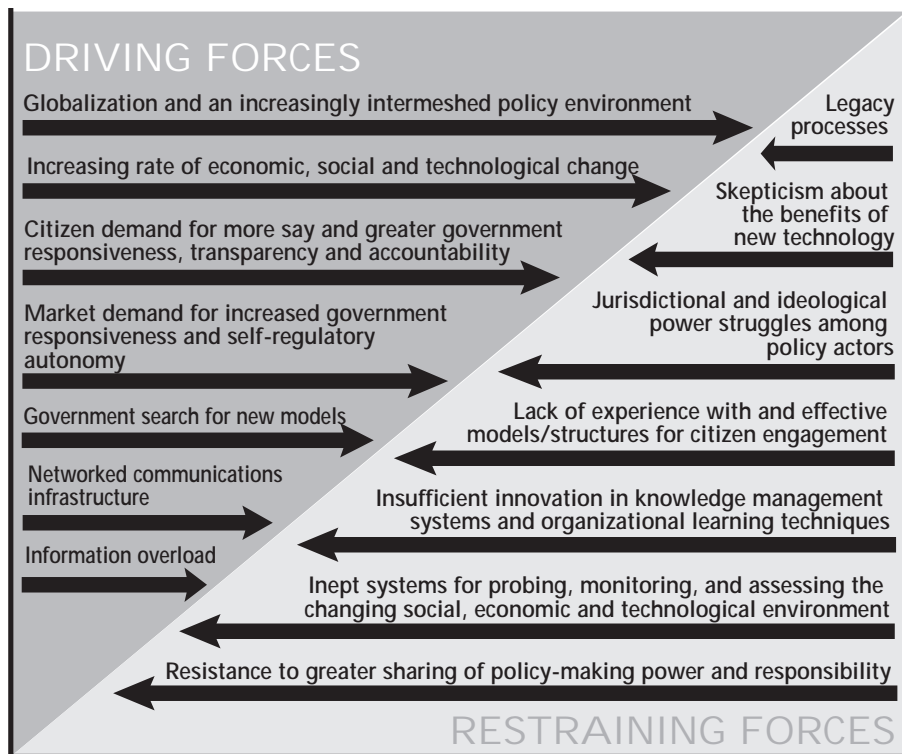


Figure 1. Force field analysis

Becoming citizen-centric

In contrast to the broadcast democracy of the industrial age, the core of digital-era policy-making is citizen-centric process that requires active and informed participation by citizens themselves. Businesses have learned that leveraging the knowledge and experience of the customer into the value-creation process results in better outcomes. In government, the importance of citizen involvement is deeper still: authority and legitimacy comes from the citizenry. Disengaged citizens are a symptom of an unhealthy democracy.

A more interactive policy-making process that puts the perspectives, preferences and experience of citizens at its core will improve policy outcomes and enrich the democratic process as the relationships between citizens and government strengthen.

Building multi-stakeholder policy webs to manage uncertainty

Static, industrial-age policy-making processes also fail to enable the organizational flexibility and responsiveness that are central to managing increasing social and economic uncertainties brought on by the complexity and speed of change today.

Insufficient innovation will undermine the legitimacy and effectiveness of policy, and worse, unplanned changes in social, economic and political order will further erode stability. Building policy webs to harness expertise and resources from emerging networks in the market and civil society will be an essential part of developing effective and forward-looking policy responses.

SHIFTING TO DIGITAL-ERA MODELS

With the majority of citizens still unconnected to the

Internet in most countries, the emergence of citizen-centric policy webs has been slow. However, now is an opportunity for both experimentation and the start of fundamental innovation required to make the shift to digital-era models. Change is required in three areas:

- **Culture:** Digital-era democracies will be enriched and sustained by a culture of policy-making that embodies values of openness, empowerment, inclusiveness, and knowledge sharing.
- **Structure:** The closed, hierarchical and static policy-making structures of the industrial age must give way to policy webs with greater agility and superior capacity for organizational networking.
- **Process:** Effective policy webs will develop a process that integrates policy development and implementation into a seamless and flexible practice of continuous engagement, improvement and innovation.

Five imperatives for digital-era policy-making

Making the shift to digital-era policy-making means mastering five imperatives for digital-era policy-making, which call upon policy webs to be increasingly transparent, participatory,

internetworked, responsive, and informed.

1. *Transparency*

Increasing transparency and openness. Policy-makers are learning that withholding information, or simply failing to honestly and clearly communicate, can alienate citizens and strain relationships with the market. Greater openness at early stages of policy development can build trust and greater social consensus on one hand, and more a prosperous and efficient economy on the other. In the wake of protests in Washington in April, 2000, the World Bank initiated a month long online consultation process—called the Development Forum—to open their approaches to critique and chart the dimensions of the debate on world poverty.¹

At minimum, policy-makers should publicize the policy objectives, documents, participants and decision criteria, and provide reasons why alternative policy options were not pursued. True transparency, however, will extend beyond posting policy documents on Web sites to making the processes and underlying assumptions or political presuppositions (including supporting research) of policy explicit and subject to critique. Freedom of information should be extended to include not just data, but also the tools of policy-making: the models, simulations, problem structuring tools, and geographical information systems that policy-makers use themselves.

2. *Participation*

Engaging citizens. We are moving into an era in which the power and authority of government, and the legitimacy of public policy, will become ever more dependent upon interactive democracy. The Internet provides governments with an opportunity to maintain democratic legitimacy by fostering, as Stephen Coleman suggests, “a culture of democratic communication based upon strong representation and engaged citizenship.”² The Scottish Parliament, for example, is building legitimacy as a new political institution by capturing the grassroots momentum generated during the negotiations for greater autonomy from Britain with ongoing interactive online forums through which citizens influence policy development.

In this paper we suggest several processes that leverage the power of technology to extend policy-making beyond the industrial age model, ranging

from citizen juries to digital brainstorming and online referenda. The easy wins for politicians are automated feedback forms and online polling. But, strong representation needs informed public deliberation and interactive communication, in which citizens can share their experience and expertise with those entrusted to represent them.

3. *Internetworking*

Partnering across jurisdictional and organizational boundaries. Globalization and the emergence of a highly interconnected political and economic environment create two new realities for policy-makers: 1) political jurisdictions and the effective “policy space” are increasingly out of sync, and 2) the complexity of digital-era issues are too large for any one individual institution in society to manage. Digitally enabled policy webs connect a broad range of participants representing governments, international organizations, businesses and industry associations, thought leaders and experts and civil society. With the appropriate organizational scale and competencies, policy webs can excel in grappling with transboundary issues, borderless environments, and technological innovation—the very conditions that hamper policy-makers in traditional institutions. The European—U.S. accord on data protection is an example of an increasing number of policies that are emerging from internetworked approaches to policy-making.

4. *Responsiveness*

Creating nimble policy webs and forward-looking policy. Lightning-speed electronic financial markets and science and technology developments are among the phenomena pressing policy-makers to respond in “real time.” Indeed, the intensity and velocity of these processes are overwhelming the capacity of governments to formulate effective, coherent and stable policy regimes. Internet taxation is a leading example of how new developments like e-commerce can destabilize existing policy regimes and tie unwitting politicians into a lengthy and arduous process of playing catch-up with the changing marketplace. Policy-makers will need to implement more effective systems (e.g. intelligent agents and simulation software) and processes (including market and citizen participation) for probing, monitoring, and assessing the changing environment. Better issue identification must be coupled with greater competence in balancing the need for long-term

policies with the imperative to manage flexible policies that are easily adjusted to changing circumstances.

5. *Informed*

Managing information and inputs. Greater control is often associated with having more information and more ways to manipulate it. With the proliferation of Internet technologies, however, policy makers now complain about information overload or “data asphyxiation.” Efforts to increase input from citizens will only exacerbate the situation. This has led to efforts to develop information management systems that can search for, filter and compile high volumes of information. Policy-makers in the Australian state of Victoria, for example, are using intranets not only for electronic calendars, document exchange and workflow management, but also to host computer-assisted performance management systems that enable public servants to assess policy outcomes.³ Sophisticated technical fixes, however, will not be enough. Effective policy-making will also rely on the active cultivation of learning and sound judgment.

CASE STUDIES

Governments are just beginning to adapt policy-making processes to digital-era realities. While examples of fundamental innovation are few, policy-makers are increasingly creating partnerships across jurisdictions, using the Internet to post policy materials and making efforts to consult a broader base of participants in the policy-making process. There is less evidence, however, of government leveraging the Internet to create responsive policy-making webs or to enable collaborative and sophisticated approaches to knowledge creation and management.

The following cases illustrate emerging best practices, as well as some of the obstacles that have inhibited widespread change.

USDA NATIONAL ORGANIC STANDARDS BOARD

Transparency in the rule making process was taken to new levels by the US Department of Agriculture’s National Organic Standards Board, which undertook the first fully electronic policy-making initiative of its size in the United States. The experience of the USDA demonstrates the increasing demand among citizens to have their voices heard and illustrates how the Internet can be used to mobilize citizen participation in rule making.

Background

While organic products currently account for only one per cent of total food sales in the US, the market has been growing at a rate of over 20 per cent since 1990.⁴ As the number of organic producers multiplied, an industry of state and independent certifiers evolved with considerable differences in practices and attitudes. After attempts to reach consensus on a uniform standard across certification agencies failed, Congress passed the Organic Foods Production Act in 1990.

Through the Act, the US Department of Agriculture (USDA) was mandated to develop the rules and regulations by which a National Organic Program would be administered. An advisory board was also established to assist the Secretary of Agriculture on the creation and implementation of the regulations. National Organic Standards Board (NOSB) is overseen by a representative group of farmers, food handlers, retailers, scientists, public interest advocates, and environmentalists.

Recognizing that the new standards would have to balance the interests of a diverse mix of consumer and business interests, the USDA opened up the rule-making process. The NOSB launched a dedicated web site that invited public comment on the proposed regulation and provided extensive background and reference material. Unlike previous USDA initiatives, the NOSB encouraged real-time debate over the definition of organic standards by ensuring that all documents relating to the proceedings were posted to the site as soon as they became available.

Overwhelming public response

Despite its rapid rate of growth, the organic food industry is still a relatively small community of farmers and environmentalists. Yet when the Department of Agriculture posted its draft proposal for organic foods standards on the Internet for public comment in May 1997, the agency received 275,000 responses—mostly negative—and was forced to withdraw its proposals for extensive revisions.

While the agri-business community favored the USDA’s proposed standards, organic food producers’ associations and advocacy groups voiced objections to several core elements of the National Organic Program.⁵

Environmental groups and farmer associations mobilized, and through Web campaigns such as Save

Organic Standards and Keep Organic Organic, citizens were encouraged to send in objections. The Save Organic Standards campaign gave birth to a nationwide organization called Organic Consumers Action that circulated a free electronic newsletter and regular email updates on USDA proceedings. Several Web sites devoted to the cause provided links to a vast selection of resources and offered instruction on how to contact the USDA to comment on the draft proposal.

Working alongside the advocacy groups, local coalitions of organic farmers organized an effective grassroots campaign against the proposed standards. The movement employed Web sites, emails, public meetings and media advertising. By the end of the consultation period their efforts had paid off: the USDA withdrew its proposal to reconsider its treatment of several controversial areas in the regulation.

Adapting to an online environment

To adapt the rule-making process to an online environment and manage the shear volume of public input, the NOSB needed to plan for significant changes to the culture and practices of public administrators. Transparency promised to increase public confidence in the policy process, but required a significant shift in outlook from internal analysis toward knowledge sharing and public debate. Concerns among administrative staff about the overwhelming volume of information had to be addressed, and participants needed to develop new skills to integrate data from diverse sources.

During the four-month period for public comment, the NOSB Web site received an average 2,700 hits per day and collected 21,000 electronic submissions.⁶ The agency facilitated public debate with knowledge management tools. These tools allowed meeting transcripts, drafts, and supporting resources to be posted to the Program's Web site on a regular basis along with relevant press releases and an up-to-date schedule of events. Online respondents identified themselves with a standardized registration page easily imported into a central database. Comments received by mail or fax were scanned and posted to the Web site. Nonetheless these improvements in transparency slowed the policy-making process. The NOSB might have expedited rule making considerably had it sought citizen input at an earlier stage.

By most accounts, the NOSB's experiment with online policy-making was a success. Lee Keely of the

USDA's Agricultural Marketing Service highlights the program's success in improving communications, reducing costs, and attaining better database functionality through its experiments with electronic rule making.⁷ The NOSB's consultation process permitted real time access to information by public officials, focused debate by airing controversial issues, and surfaced weaknesses with the proposal before it was enacted into policy. To extend the success of the organic program into future policy-making endeavors, the USDA needs to leverage new relationships with citizens and stakeholders to build a more structured policy web.

SCOTLAND'S PARLIAMENT BEGINS TO TAKE SHAPE

The devolution of legislative authority to the Scottish Parliament offers a rare opportunity to develop institutional structures from the ground up that integrate the principles of digital economy policy-making. Members of Parliament leverage information technology—including tools like the e-petitioner—to increase their accessibility to constituents and better inform themselves about complex policy issues. While the Scottish Parliament continues to explore new opportunities to encourage public participation at all stages of the legislative process, the demand for greater self-government is also spawning new public spaces for civic participation and laying the foundation for future models of interactive democracy.

Digital-era institutions

Unencumbered by long-standing parliamentary customs, the new Scottish Parliament was founded on three simple principles: openness, access and participation. The steering committee orchestrating Parliament's initial rules, or Standing Orders, is promoting a comprehensive information technology strategy to enact these principles in the development and scrutiny of policy and legislation.

The centerpiece of the public access strategy is a comprehensive, interactive Web site started in July 1999 with a Webcast of the opening ceremony of the Parliament. Visitors to the site can take a virtual tour of the assembly or familiarize themselves with the current legislative activities of the Parliament. Use of the site has more than doubled over the past year, averaging nearly 300,000 monthly page views in spring 2000.⁸ A weekly bulletin provides regular policy updates for both the Members of Parliament

and their constituents, and all proceedings of the Parliament are posted as they become available.

An electronic petitioning tool developed by the International Teledemocracy Centre in Edinburgh provides an additional channel for public interactions with the parliament. The “e-petitioner” is the first component of a toolkit designed by the Centre to enhance the democratic decision-making process. Individuals, business representatives, and civic organizations can submit electronic petitions describing complaints, request for introduction or amendment of legislation, or any other matter of public interest. All petitions are posted to the Parliament Web site alongside a detailed update on actions taken by the Public Petitions Committee to address the issue.

In the nine months of the program, the Petitions Committee has received nearly 200 submissions.⁹ One such petition, submitted by the Carbeth Hutter’s Association, asked Parliament to bring in legislation to ensure secure tenancies and access to rent controls for homeowners on rented property. After hearing evidence on either side of the issue, the Justice and Home Affairs Committee recommended statutory measures be included in the Scottish Executive’s forthcoming Land Reform Bill to protect the tenancy rights of renters. In another example, the Public Petitions Committee itself intervened on behalf of the Glasgow North Action Group to postpone a decision by the Greater Glasgow Health Board regarding the site of a new health facility.¹⁰

New avenues for participation

The Scottish Parliament’s commitment to interactive democracy reflects an effort to harness the momentum of the campaign for greater self-government that led to Scottish legislative devolution. Yet while parliamentary committees have only begun to experiment with leading edge tools for public engagement, devolution has inspired a variety of non-government projects that are increasing debate on policy issues and ensuring the accountability of the new Scottish Parliament. The Scottish Council for Voluntary Organizations (SCVO), for example, launched a millennium project to provide training and support for new Internet users at 200 community access centers throughout Scotland. The SCVO has also scheduled Web events where citizens can engage in real-time conversations with their

Members of Parliament.

One ambitious initiative for interactive democracy is the Scottish Civic Forum, which was sponsored by the Scottish Parliament but remains at arm’s length from the government. Although it periodically undertakes formal consultations on behalf of the Scottish Parliament, the Civic Forum is a gateway, not a gatekeeper. It provides a public space where community groups, business associations, trade unions, and churches can openly debate policy issues and explore alternative forms of participation.

The Parliament’s efforts to create a culture of openness in government have provided multiple new channels for dialogue on issues of importance to the Scottish people. If these initiatives are to flourish into an active policy web, the Scottish Parliament will need to continue to support innovation in government institutions and create new mechanisms for reaching out to constituents and integrating their diverse perspectives in the policy-making process.

DANISH BOARD OF TECHNOLOGY: CITIZEN-BASED TECHNOLOGY ASSESSMENT

The Danish Board of Technology (DBT) is developing a policy web that engages citizens and multiple stakeholders to assess the potential social, economic, or environmental impact of new innovations in science and technology. Its experiments with participatory models will provide a practical foundation for the next generation of digitally enabled policy tools.

Background

The Danish Parliament, anticipating fierce debates over information technology and biotechnology issues, created the Danish Board of Technology in 1985. The agency led inquiries into the application of emerging technologies on behalf of the Ministry of Research and Information Technology before being established as a permanent institution by an act of Parliament in 1995. Under the act, the DBT’s functions were extended to allow it to organize independent technology assessments, promote public education and generate debate on the potential uses or consequences of technological advancements.

The DBT operates as an independent institution, but plays an important advisory role to the committees of the Danish Parliament. Its governors and Board of Representatives are selected from a cross-section of

academics, local government representatives, business associations, union agencies, and civil society organizations. Each year, the Board of Governors approves up to 10 large-scale assessment projects to be undertaken by the organization. Issues covered in recent years include such diverse topics as genetically modified foods, satellite telecommunications, and the aging Danish population. Newly launched projects are highlighted on the Board's Web site along with contact information for project leaders, project reports, and supporting resources.

Engaging public debate

Because public opinion about emerging technologies is difficult to ascertain through traditional policy channels, the DBT policy web invites people from outside the relevant circle of experts to take a leading role in technology assessment and priority setting for policy-making. It also designs activities to stimulate public debate, such as funding local townhall meetings and building awareness through media and educational campaigns.

Consensus conferences are among a handful of pioneering methods the Danish Board of Technology uses to involve citizens in developing the policy agenda. In a consensus conference, about 15 randomly selected lay people come together for four days to deliberate on a policy issue. They listen to presentations from experts and officials before formulating a perspective. In the past several years, 15 such conferences resulted in the creation of new frameworks for assessing topics such as telework, gene therapy, and the use of electronic identification cards. This citizen input has a substantial impact on policy decisions made by the Danish Parliament. For instance, recommendations from a consensus conference to define thresholds limits for chemicals in foodstuffs were instrumental in the decision to ban irradiation of foods as a method of preservation in Denmark.¹¹

While consensus conferences look to the public for fresh perspectives on how to integrate new technologies, scenario workshops focus on solutions to local technological problems. Rather than simply choose among scenarios, participants critique or comment on the various proposals presented by government officials and technical experts. The Danish government is now lending its expertise in these methods to a project undertaken by the European Union's Innovation Programme to provide

local communities with the tools to design new scenarios for local mobility and urban regeneration. The project's methods have already been put to use in nearly 20 cities throughout Europe.¹² For example, officials in Bilbao, Spain used scenario workshops to assess future uses of the River of Bilbao as part of the city's overall urban planning strategy.

A new innovation by the Danish Board of Technology is policy role-playing, which enables citizens and policy-makers to experiment with different strategies and actions and predict their future impact. Power Play is a computer-based simulation of the energy sector of a fictitious country. Players each take on one of seven roles including government, small and large private sector companies, and a news agency. The goal of Power Play is a robust, flexible, and sustainable energy system. Aided by tailor-made decision support models, participants can assess the impact of regulations, subsidies and fees imposed by government in the context of fluctuating energy prices, market liberalization, and other factors influencing the performance of the sector.

New tools for interactive democracy

Recognizing that current models of online voting and opinion polls fall far short of the robust methods devised by the Danish Board of Technology, the Digital Denmark Committee of the Ministry of Research and Information Technology has made digital participation a central priority of the government's IT strategy. The Committee is developing a single point of entry portal, www.danskspolitik.dk, for citizen engagement in political debate and policy information on the Internet. As the country evolves toward a truly networked society, it envisions an interactive forum for policy debate that ensures continuous dialogue between decision-makers and their constituents and enhances the government's ability to identify and respond to policy issues as they emerge.

The DBT is also engaged in the development of interactive tools through its participation in the European Parliamentary Technology Assessment Network and EUROPTA, the European Union's Participatory Technology Assessment project. However, national governments have been reluctant to adopt Web-enabled methods for citizen engagement in policy-making until Internet usage is

more widespread.

As governments around the world look for new ways to invite popular participation, the pioneering methods of the DBT serve as useful models and many policy-makers are adopting them. While many of the innovations—like consensus conferences, scenario workshops, and role playing—play out in the analog world, their experiences should inform future experimentation with a new generation of Web-enabled policy tools such as online citizen forums, Web-based deliberative polling, and citizen juries.

ORGANIZATION OF AMERICAN STATES: WEB-ENABLED POLICY-MAKING

The Organization of American States (OAS) is the western hemisphere's principal forum for dialogue and cooperation on multilateral policy issues. To foster social and economic progress and promote opportunities for cooperation, the OAS is increasingly using digital tools to create a policy web that facilitates interaction among member states and develops new avenues for participation for international institutions and civil society organizations. Member states currently leverage these Web-based channels to coordinate policy in the ongoing negotiations regarding the proposed Free Trade Area of the Americas.

Background The OAS is one of the oldest multilateral partnerships of its kind. Made up of 35 member states, it provides a vehicle for joint action on issues that transcend national and regional boundaries, such as security, justice, and trade. OAS current priorities, as mandated by its membership, are to carry out programs and policies to strengthen democracy, promote sustainable development and education, and reduce barriers to trade. Specialized units under the General Secretariat provide administrative support for collaborative projects among member states acting to further these objectives.

In the mid 1990s a "New Vision for the OAS" included a plan to modernize internal operations to support multilateral cooperation using advanced information systems. As a result, the OAS's Web presence is growing into an extensive network of sites covering a variety of policy topics and targeting several different stakeholder groups. Each unit of the General Secretariat—democracy, education, sustainable development, and trade—forms an

information hub linking academic, government, and private sector resources. With the expansion of the Trade Unit to service trade talks, the OAS site now receives nearly five million hits a month, with 150,000 unique visits.

Web-enabled trade negotiations

At the 1994 Summit of the Americas, the hemisphere's heads of state launched a bold initiative to break down trade barriers and strengthen democracy throughout the region. In subsequent meetings, the ministers established nine negotiating groups each relating to a trade topic, two Special Committees, and a Consultative Group on Smaller Economies. Negotiations for the proposed Free Trade Area of the Americas (FTAA) are expected to continue until 2005.

The information needs of the FTAA initiative are enormous. As part of the Summit's Plan of Action, the OAS Special Committee on Trade provides resources and technical support to six of the nine negotiating groups through a centralized information system. The unit also manages a multilingual network of Web sites that now form the information hub for multilateral trade talks in the western hemisphere.

Policy-makers and public servants can compare national trade laws and practices using comprehensive selection of databases on the OAS's Foreign Trade Information System (known by its Spanish acronym SICE). The site offers a complete collection of trade agreements and investment treaties (full text and summaries) and provides negotiators with information on disputes settlement, domestic tariffs, and intellectual property. Users can navigate the information through topical or regional search functions, and can request statistical data from official and unofficial OAS sources.

An online trade forum invites input from non-government actors in an open meeting place for debate. The OAS archives these discussions along with news articles and editorials, to provide a chronological record. Another site, Trade in Action, balances the selection of official documents with private sector information on import and export opportunities in the region. To facilitate economic integration of member states, the trade unit provides small and medium sized businesses with direct access to national export development agencies.

New frameworks for participation

While most of the FTAA trade negotiations remain behind closed doors, the OAS has begun to explore new opportunities to expand the scope of its policy web to include previously underrepresented stakeholders. The origins of the project date back to the 1996 Bolivia Summit, where member states gave the OAS mandate to draft a framework for involving all sectors of society in policy-making for sustainable development.

The OAS leveraged the Internet to solicit input for its policy framework, and encouraged feedback on the project through a dedicated Web site. Seventeen designated “National Focal Points” collected input through local network channels. US representatives, for instance, distributed the proposal to an estimated 300 organizations through an electronic network before holding formal roundtable meetings in Washington DC to discuss the strategy.¹³ Posted on the ISP Web site, an online questionnaire invited further refinement of the framework by enabling members of the public to comment on the future scope of the initiative and prioritize policies recommended to OAS member governments.

The OAS outlined its recommendations and proposed actions in the Inter-American Strategy for the Promotion of Public Participation in Decision-Making for Sustainable Development (ISP). These include the adoption of strategies such as timely access to the decision-making process, clarification of performance indicators for assessing participatory practices, and funding civil society organizations. Only months after the ISP was finalized, the government of Dominica announced its plans to use the framework to prepare an Integrated Development Plan that invited active participation from government agencies, the private sector, and civil society organizations.

The OAS has made significant advances in ensuring that its operations are transparent, both to participating governments and to their constituents. Its Web sites provide a vast selection of resources on policy issues in the western hemisphere and have encouraged public debate through discussion forums and formal public consultations. However, if the principles championed by the ISP policy framework are to be achieved, the OAS policy web will need to continue to develop mechanisms for effective and broader participation and adopt more interactive digital tools for multilateral policy-making.

A GLOBAL NETWORK OF NETWORKS: CLEARING-HOUSE MECHANISM OF THE UN CONVENTION ON BIOLOGICAL DIVERSITY

The Clearing-House Mechanism (CHM) was conceived as a neutral, cost-effective, and accessible mechanism for sharing technical information and best practices among the nations that ratified the United Nations Convention on Biological Diversity. It has since evolved into a decentralized, loosely knit policy web that provides a valuable example of how the power of the Internet can be leveraged to support more effective and efficient policy-making through international collaboration and knowledge sharing.

Background: the UN Convention on Biological Diversity

The United Nations Convention on Biological Diversity was born out of a growing recognition that conservation and sustainable use of the environment require international policy solutions. The primary objectives of the Convention were threefold: conservation, sustainable use of biological diversity, and equitable sharing of benefits from the use of genetic resources.

United Nations Environment Program’s (UNEP) Intergovernmental Negotiating Committee was instrumental in preparing the Convention, which was first opened for signature in June 1992 at the UN Conference on Environment and Development (the Rio Earth Summit). The Convention was ratified by 168 nations before it entered into force in December 1993, and nine governments have since joined the initiative.¹⁴

In the spirit of the Rio Earth Summit, the Convention promoted a partnership among nations built on cooperation, access to financial resources, and transfer of technology for sustainable development. It was the first of its kind to identify rights and obligations of participating countries concerning technical cooperation. To translate its goals into action, the Convention also made provisions for the creation of a clearing-house mechanism for effective and efficient knowledge exchange among government agencies and experts.

A new approach

Although it was the outcome of an international agreement, the Clearing House Mechanism is a fresh “bottom-up” approach to creating policy webs that are nationally rather than internationally directed. The CHM knowledge-sharing tools enable

continuous policy innovation at the local level by facilitating an ongoing exchange of knowledge across the global policy network.

Responsibility for building the knowledge resources and coordinating CHM activities is shared among 137 “Focal Points” that are housed within government ministries around the world. Agriculture and natural resource ministries in participating countries dedicate staff and resources to support the mechanism and disseminate information on biodiversity to local stakeholder groups.

The Convention Secretariat, based in Montreal, Canada, acts as a facilitator for exchanging information on policy and resource management issues and provides administrative support to locally driven projects for conservation and sustainable development policies. The Secretariat maintains the central Web site of the CHM ensures that national Focal Points have adequate tools for participating in the exchange and plays a leading role educating users on how to leverage the sites resources.

The CHM Web site goes far beyond the simple archiving capabilities of most knowledge management initiatives to provide users with a rich selection of tools for using data. The information is tailored to the needs of government, providing advice on incentive measures, biosafety protocols, research, and training opportunities. Special topics in conservation and biodiversity are covered by thematic Focal Points, while national and regional Focal Points contribute national progress reports to build a pool of experience and shared best practices. Database search tools allow users to refine their search and the CHM’s BioSeek provides a powerful search engine for finding information relating to biodiversity on other sites. Partnerships among Focal Points have given rise to new Web tools, such as the current pilot project to develop an interactive platform for assessing biodiversity policy based on geographic information systems (GIS).

In all, the CHM Internet initiative includes over 4000 Web pages and has had almost a million hits since it was first launched in June 1998. According to an independent review of the program, 38 national Focal Points maintain their own Web sites averaging over 5,000 weekly visits, and 92 Focal Points communicate via email. Over half of participants surveyed reported that they receive as many as 25

information requests a week, many from government agencies requesting policy documents.¹⁵

Ensuring access

CHM is a key resource for policy-makers in Web-wired nations, but it must meet the information needs of nations with vastly different technological capacities. Recognizing that some participants have limited access to the Internet, the CHM Secretariat has endeavored to make the mechanism available to the broadest range of users possible.

The Secretariat takes an active role in building capacity through workshops, training and institution building. It provides information and guidance to participating nations leveraging the information available on the CHM Web site, supplementing its efforts by using a variety of communications channels to disseminate information including newsletters, listservs, a CD-ROM toolkit, and FTP access to archived documents. The Secretariat also supports a partnering program that links Focal Points without Web access to Web-connect participants willing to maintain the partner country’s policy documents on their own server.

The Clearing-House Mechanism has proven an effective tool for supporting partnerships and knowledge exchange among governments, academics, and civil society organizations. As a policy web the CHM improves access to resources and reduces duplication of effort on environmental research and assessment. It invites the participation of stakeholders from diverse backgrounds and specializations, and promotes cooperation and knowledge sharing through a network of databases. The CHM Secretariat promotes continuous improvement by harmonizing formats for assembling and disseminating information, but must continue to explore new opportunities to encourage participation from members with only limited access to the Internet.

Building a policy web

Policy webs are emerging as the leading organizational form for enabling greater innovation, agility and citizen participation in policy-making. Building new policy-webs requires innovation in three areas: adopting a participatory culture of policy-making, designing appropriate organizational structures for policy-webs, and enabling a process of continuous policy innovation. The following section

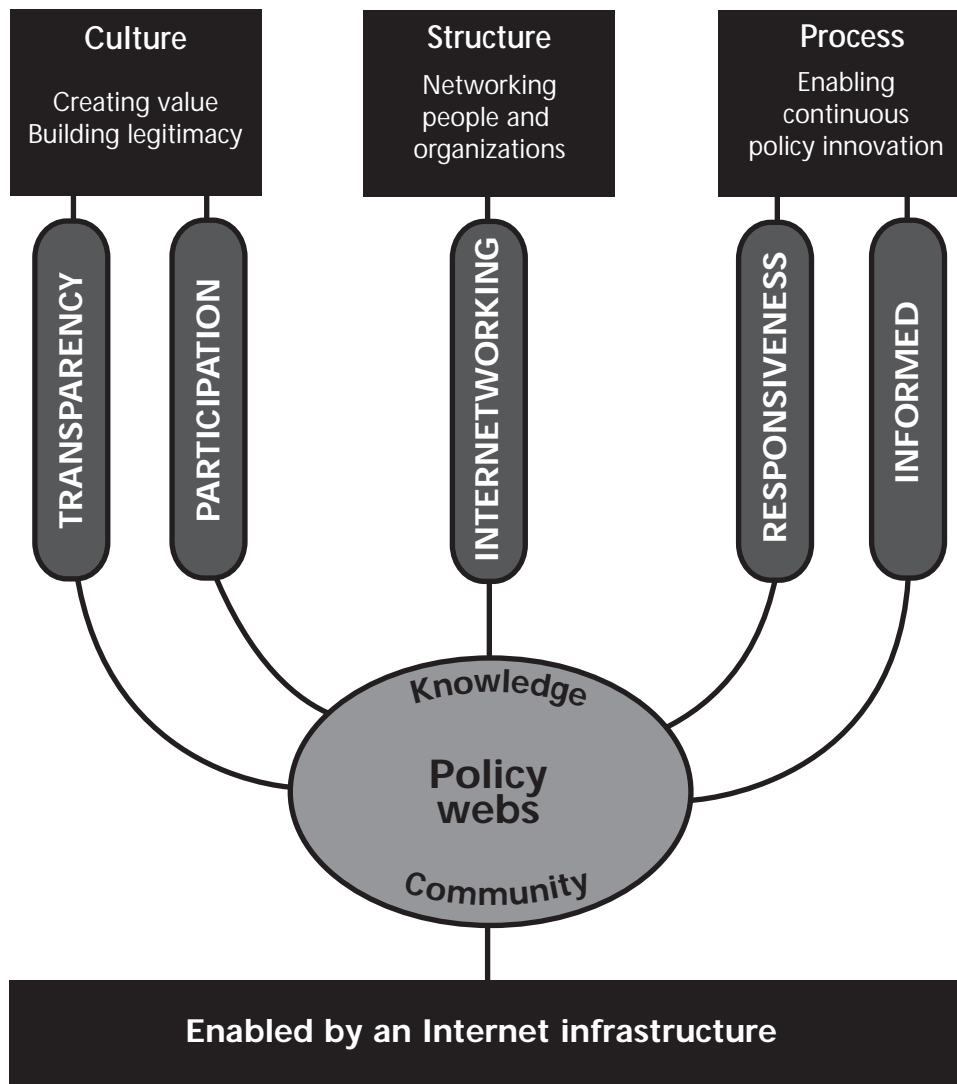


Figure 2. Policy web framework

explores these three areas with reference to the preceding case studies and the five imperative of digital-era policy-making.

The culture of policy-making

The eroding legitimacy of conventional approaches to policy-making is rooted in the widening gap between citizens and the institutions of government. Bridging this divide will require policy-makers to shed their often-skeptical view of the competence of everyday citizens to make informed political decisions. Policy-makers must embrace citizen engagement as the heart of digital-age democracy. A core challenge for policy webs will be fostering a culture based on

openness, collaboration and knowledge sharing that puts digital citizens at the center of political discourse.

Changing the culture of policy-making begins with broader participation in policy webs and greater transparency of process and information. These advances will enable greater value creation as new perspectives and knowledge are integrated into the development of policy. Transparency and participation will also help build trust and legitimacy for policy webs by enabling citizens to observe and scrutinize the policy-making process with greater ease and convenience.

Several of the preceding cases indicate that a shift in the attitudes and behaviors among policy-makers is

beginning to take hold.

- **USDA.** Although precipitated by a flood of complaints, the decision to open the USDA's National Organic Program rule-making process to public consultation required a significant shift in the traditional approach to making policy. Policy-makers withdrew their proposed standards for organic food and reoriented the standards-making process in light of the explicit desire of a large community of concerned citizens to participate. The USDA case also illustrates how participants outside the traditional policy community can play a role in bringing about a shift in culture. Advocacy groups, for example, helped mobilize the participation of tens of thousands of US citizens in rule-making initiative and provided additional points of entry for accessing information about the proposed regulations.
- **Scottish Parliament.** Encouraging greater civic participation in the legislative process is a priority for the new Scottish Parliament. Through innovations like the e- petitioner and the Scottish Civic Forum, the Scottish Parliament is building legitimacy as an institution supporting greater self-government for the people of Scotland.
- **Danish Board of Technology.** Openness and informed public deliberation are principle objectives of the Danish Board of Technology (DBT). The innovators at DBT understand that citizen participation is central to creating sound policy, but found that public opinion on the use and misuse of emerging technologies was difficult to divine through traditional policy channels. The plan to extend consultation techniques like scenario workshops using digital technology will enrich the process.

The organizational structure of policy webs

To perform effectively, policy webs will require both institutional and organizational frameworks to manage the relationships among citizens and diverse stakeholder groups.

An institutional framework will include a set of rules and responsibilities that governs the policy-making process. When the goals and values of stakeholders are aligned or when organizations in the policy web have a history of cooperation, the rules may be consensual and informal. Where alignment on goals

and values is weak, a codified set of rules and processes for resolving conflict will be key to avoiding stalemates. In either case, an effective institutional framework will help broaden participation, manage group dynamics, create trust and commitment, and facilitate progress on issues and challenges.

There is no precise formula for setting ground rules for multi-stakeholder policy-making. But to be sure, governments' ability to maintain a monopoly on determining the rules is waning. The opportunity in policy webs is to orchestrate a collective process for establishing acceptable norms and procedures that result in better governance, greater transparency and accountability, and a broader political consensus.

An organizational framework will determine issues of scale and scope. Determining the appropriate degree of centralization versus decentralization for handling different policy issues will be a core issue for policy webs operating in a global environment. While neither is necessarily good or bad, the choice between centralization and decentralization will have a substantial bearing on which stakeholders and citizen participants are at the decision-making table.

- **Organization of American States.** In the case of the FTAA, decision-making has been centralized to achieve the coordination necessary to create a continental trade agreement. In this regard, the FTAA example represents a policy web that is carefully controlled and monitored by the OAS. The OAS trade initiative has established a network for participation by specified stakeholder groups where the flow of information is restricted. This organizational framework does not invite input from additional stakeholders except through limited channels. On the other hand, the OAS has posited a decentralized model to manage issues such as human rights and sustainable development where decisions are best made locally but regional networks improve knowledge sharing or facilitate the creation of shared standards.
- **The Biodiversity Clearinghouse Mechanism.** Similar to the OAS strategy for sustainable development, the CHM is a decentralized policy web with no single agency controlling inputs to the network. The CHM supports the broad objectives of the UN Convention on Biodiversity by assisting decision-makers in identifying their policy options regarding conservation and

sustainable development, but policy decisions are made locally or nationally. Through the CHM network, decision-makers can exchange experiences, progress reports, and best practices.

Enabling a process of continuous policy innovation

While there has never been one process for policy-making, the industrial-age process could be characterized as:

- *Slow*: new policies often take years to develop and operationalize;
- *Static*: policies are designed to be comprehensive and unchanging frameworks;
- *Linear*: policy is created in a sequence of steps that begins with problem definition and ends with implementation; and
- *Broadcast*: policy decisions are broadcast to the public via mass media.

In the digital-era, effective policy webs integrate policy development and implementations into a seamless and flexible process of continuous engagement, improvement and innovation. Continuous innovation will require governments to abandon their monopoly over the policy process in favor of participatory models that invite input at all stages of development—from problem definition through to making decisions. Policy webs will also have to develop a stronger capacity to seek, share and integrate new information. Once policies are implemented, policy webs can leverage their capacity for knowledge management to create feedback loops from implementers to policy-makers that inform ongoing policy innovation.

Three case examples best illustrate some practices that policy webs can implement to become more responsive and informed.

- *The Organization of American States*. The policy web emerging to support the FTAA negotiations provides a rich source of knowledge to be shared by policy-makers throughout the hemisphere. The OAS Trade Unit's Web-enabled databases, for example, integrate data from participating countries to enable the FTAA negotiation committees to compare trade laws and practices across the 35 member states. Remote access to this information facilitates the ability of dispersed FTAA negotiators to advance policy development in a more timely and effective manner by eliminating the need to organize international meetings at each stage of the process.
- *The Biodiversity Clearinghouse Mechanism*. The CHM knowledge-sharing tools enable continuous policy innovation at the local level by facilitating an ongoing exchange of knowledge across the global policy network. CHM goes a step further than the FTAA by creating an online environment that promotes spontaneous creation of knowledge through the interactions of a network of 137 thematic and regional focal points. Spontaneous interactions enable policy-makers to build on the experiences of people outside of the immediate policy circle by capturing their ideas and interpretations of the biodiversity issue. The CHM also illustrates the valuable role that thought leaders play by providing decision-makers with valuable insight into biological diversity while remaining independent of national policy circles.

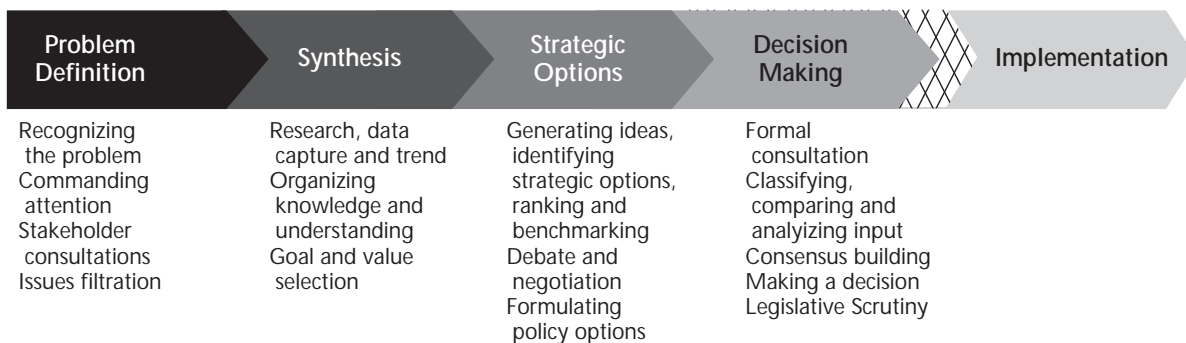


Figure 3. Industrial-age policy-making process

- **The Danish Board of Technology.** By establishing the DBT, the Danish government created an institutional response to the growing speed of change in science and technology. Their foresight was that responsive and informed policy requires robust participatory models to identify new policy issues arising from advances in technology. The recommendations passed on from the DBT enable the Danish Parliament to formulate long-term

policy frameworks for managing change that can be updated regularly through transparent and participatory processes.

WHO DOES WHAT IN THE POLICY WEB

There is a wide range of institutions and organizations in society that currently contribute to policy development. In the industrial age, these participants added value to the policy-making process through

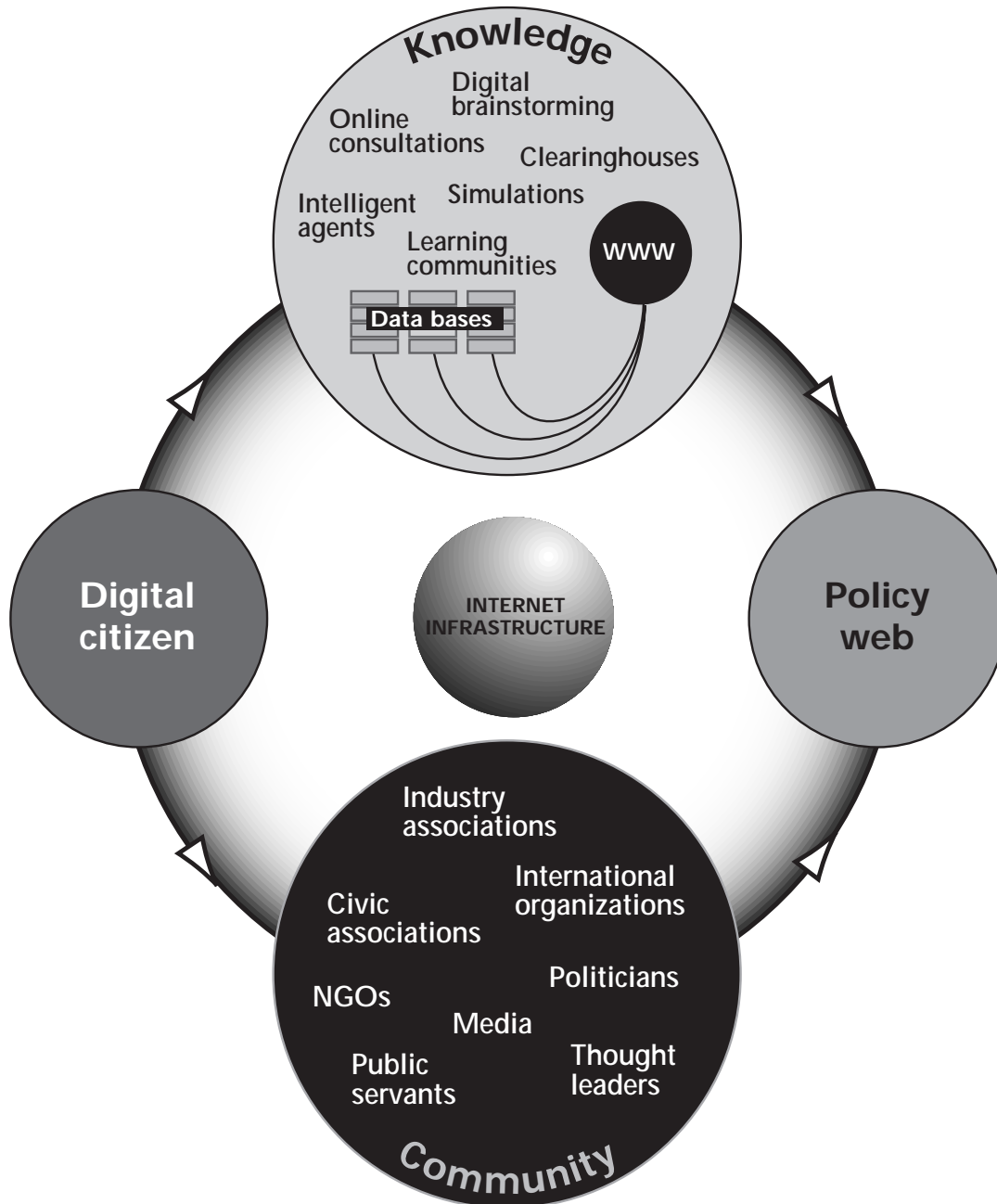


Figure 4. Enabling knowledge and community in policy webs

different channels, at different stages of the process, with different means and ends, and with varying levels of effectiveness. Building new policy webs is a means by which policy-makers can bring greater structure, complementarity and coherence to the contributions of a disparate group of participants.

Positing new digital-era roles and responsibilities for participants in a policy web is an important step in transforming the policy-making process. In doing so, policy need to question the enduring validity of the industrial-age roles of policy contributors, identify

new contributors and think creatively about shifting responsibilities from one class of participants to another. Governments, for example, do not have to be the lead participant in policy webs. In many cases, governments should be content with being a bystander—or a mere participant—as citizens and other institutions and organizations in society leverage their capacity to develop policy.

Policy contributors	Industrial age	Digital age
Citizens	As passive onlookers in the policy-making process, citizens vote every few years to provide government with a new policy mandate. In some cases, citizens are randomly selected for polling and participation in focus groups.	Engaged citizens will take advantage of new online tools that enable them to track and participate in policy development for issues that interest or affect them. But if citizens are to true shareholders in power, they will have to embrace the responsibilities and obligations of increased participation in democratic deliberation. Developing civic competencies will mean creating and sustaining public spaces in which citizen relationships and competence can flourish.
Politicians	Once voted in by their constituents on the basis of a largely preconceived policy agenda, politicians lead the process of formulating specific policy proposals, shepherding them through legislative scrutiny and defending in the public eye. When in opposition, or as a member of a minority party, politicians play a key role in interpreting and critiquing new policy proposals.	Politicians will exploit new technologies to build stronger relationships with their constituents, and in doing so, become facilitators of political discourse and citizen engagement. Politicians will play an important role in disseminating resources and information to constituents, moderating discussions and channeling citizen input into the policy-making process. In this new role, politicians will need to complement their skills in political strategy and communications with skills in listening, mediating, consensus-building and public outreach. Above all, politicians—as the only truly legitimate political representatives—will need to exercise good judgment in weighing inputs and making policy decisions.
Public servants	Public servants support the development of policy by selecting, ordering and presenting evidence and analysis on which policy decisions are based. At the other end of the process, public servants lead policy implementation and manage the government bodies that oversee and enforce policy.	Public servants will play a leading role in establishing new processes for creating and managing knowledge. In the policy development stage, public servants will develop and execute strategies for using information technologies to capture and disseminate knowledge widely throughout the policy web and to the public at large. In the implementation stage, public servants

Policy contributors	Industrial age	Digital age
Political parties	<p>Political parties draw together policy positions on a full range of issues under a single political platform and play a role interpreting and publicizing policy issues. Political parties have also traditionally served as forums for grassroots participation in the development of policy platforms and as training grounds for new political leaders. This role in policy development, however, has been eclipsed by an electoral/communications role, in which new technologies are being deployed to raise money, organize campaigners and broadcast political messages.</p>	<p>will be crucial links in feedback loop that will enable greater policy responsiveness. Public servants will also use online forums to share best practices and operational know-how through emerging inter-governmental public service network.</p> <p>The digital-era presents an imperative for political parties to reinvigorate their role in policy development or lose their relevance in the world of politics. On one hand, political parties could be disintermediated by direct communications and interaction among citizens, interest groups, politicians, and public servants. On the other hand, a shift from “marketing” and communications to citizen engagement and political organizing could enable political parties to form their own policy webs. In countries where two party systems dominate, the Internet could also enable niche and regional parties to raise their profile and ultimately lead to greater diversity in ideas and political platforms. The future of political parties will be determined by their ability to leverage new technologies as a force for generating new ideas and mobilizing people behind them.</p>
Thought leaders: academics think tanks, policy research groups and consultants	<p>Thought leaders have traditionally been both trusted policy advisors and devoted critics of government policy. In some cases, thought leaders work in tandem with policy-makers to provide original research and analysis for policy development. In a broader sense, the thought leaders play an important role in critiquing political institutions and imagining alternative models.</p>	<p>There is great potential to amplify the roles that thought leaders play in digital-era policy webs. In addition to providing new research and ideas, the most important role for thought leaders will be “knowledge brokerage”—interpreting social, economic and technological change and providing grounding in relevant academic disciplines to enable policy-makers to understand complex policy evidence. Thought leaders will increasingly be called upon to give expert testimony for citizen juries, to be neutral moderators in online discussions and to lead multi-disciplinary learning communities that form around policy issues. To maintain a lively democratic discourse however, policy-makers must be equally willing to engage their critics, as they are their allies.</p>
Industry and professional associations	<p>Industry and professional associations lobby on behalf of the collective interests of industries and professional groups. These bodies expend a great deal of resources to research, develop and present policy proposals</p>	<p>Both individual corporations and broad industry associations will become direct partners in the policy-making process, playing a vital role in setting agendas and negotiating outcomes. The specialized</p>

Policy contributors	Industrial age	Digital age
<p>Civil society organizations: Civic associations, trade unions, NGOs & advocacy networks</p>	<p>that would strengthen the performance of their industry to government decision-makers. Policy-makers looking for in-depth industry information, or feedback on policy development frequently consult industry associations.</p> <p>Civil society organizations frequently play a watchdog role by scrutinizing and critiquing policy and assembling and distributing alternative policies and points-of-view. Direct involvement or influence in policy-making has generally been limited to a select group of well-resourced civic associations and NGOs with access to decision-makers. In some cases, these groups provide specialized inputs and often represent interests or constituencies that are not included in the mainstream political process. Historically, trade unions have been a powerful force for representing the interests of workers in policy making and collective bargaining with industry. The causes, however, are not always noble, and in pursuing self-interest, some civil society organizations lobby for the rights of a few over the well-being of the majority.</p>	<p>technical expertise of corporate decision-makers and industry associations will help develop tools for predicting the impacts of policy options on a given industry and enable governments to make wise and informed policy choices. Increasingly, the private sector will also take on a broader role in policy implementation, particularly in the delivery of government services. However, more corporate participation in policy-making is coming with demands for soft laws and voluntary compliance rather than hard government laws and regulations. Greater autonomy must be accompanied by a willingness to balance the claims and interests of shareholders, employees, customers and the public at large, and in some many cases, to open corporate decision-making to greater scrutiny.</p> <p>Better access to information and the ability to communicate rapidly and inexpensively has led to an explosive growth of civic organizations with the potential to influence policy-making. In the absence of open and informed public discussion about policy issues, these groups will increasingly use the Internet to disseminate their own point-of-view, whether based on fact, rumor, or in some cases, third-party interpretations of restricted policy documents that have been leaked to the public. In many cases, governments are finding that civil society organizations are important partners in the renewal of local politics, the democratization of global decision-making and the implementation of solutions. Single-issue coalitions, however, will need to consider the broader public interest when pursuing their objectives. Trade unions will need to engage their members, reach out to new constituencies, form coalitions with other social groups and network internationally to maintain effective influence. And not unlike the market, policy-focused NGOs and advocacy networks will need to become more transparent and tackle issues of representation and accountability in an effort to build credibility as legitimate policy actors.</p>

20 STRATEGIES TO ENHANCE POLICY-MAKING IN THE DIGITAL ECONOMY

Internet technologies offer policy-makers range of tools that support knowledge creation and community building: two core aspects of digital-era

policy-making. Thinking creatively about how technology could be employed in policy development and implementation surfaces a number of innovations that could enable policy webs to bring the five imperatives to fruition.

Policy-making imperatives	Innovation	Examples and proposals	Enabling technologies
Transparency	<p>1. Targeted communications: Targeting communities of interest with updates on policy process, soliciting feedback, invitations to online consultations, and circulating new documents.</p> <p>2. Policy portals: Aggregating policy-related content including policy documents, models and simulations, data sets and meeting minutes.</p> <p>3. Web-casting: Web-casting policy-making meetings, “town hall” assemblies and parliamentary sessions to enable citizens to observe and scrutinize the policy process.</p>	<p><i>Example:</i> The OAS’s proposed policy recommendations were distributed for review through an electronic network of civil society organizations and government agencies.</p> <p><i>Example:</i> The USDA created a dedicated Web site for its National Organic Program where it posts all documents relating to the rule-making proceedings.</p> <p><i>Example:</i> The OAS Web-casts plenary sessions from Summit meetings and FTAA negotiations, and posts audio and video clips to its multimedia library.</p>	<ul style="list-style-type: none"> • Listservs • Profiling • Filtering • Web sites • Bulletin boards • Online databases • Web-enabled simulations driven by user inputs • Web casting with streaming video and audio
Participation	<p>4. Citizen juries and panels: Selecting ordinary citizens on a random or representative basis to serve as policy jurors or advisors on a designated issue. Jurors hear evidence, ask questions and non-binding policy recommendations. deliberate to arrive at binding or Citizen panels could be establishing as permanent advisory bodies consisting of a representative cross-section of citizens that is regularly overturned. Internet technologies could extend citizen panels into the international arena to from parallel bodies for international institutions such as the World Bank or the United Nations.</p>	<p><i>Proposal:</i> Citizen panels could be incorporated into regional policy debate on the FTAA to better assess the national implications of free trade in particular social and economic sectors and to establish a broader public constituency for international trade.</p>	<ul style="list-style-type: none"> • Online conferencing • Decision-support software • Online databases • Simulation software • Moderated chat rooms • Asynchronous newsgroups • Listservs • Online conferencing

Policy-making imperatives	Innovation	Examples and proposals	Enabling technologies
	<p>5. Deliberative polling: Giving citizens the time and resources to learn about and reflect upon the issues in a collaborative and deliberative fashion by combining small group discussions on the Internet with scientific random sampling to contribute more informed public input in policy-making than instant polling can provide.</p> <p>6. Digital Brainstorming: Bringing together policy actors and citizen participants to engage in real-time, moderated brainstorming sessions to identify new policy issues or needs.</p> <p>7. Online consultations: Soliciting citizen feedback on proposed or recently implemented policies through asynchronous online forums, with a mix of structured (e.g., surveys) or unstructured (e.g., unmoderated discussion groups) options for providing input.</p> <p>8. Virtual question periods: Making political representatives available online for regular question and answer periods with their parliamentary sessions to questions constituents or opening up from citizens that could be channeled to their representatives through electronic mail or broadcasted to parliament (and over the Web) with live video feeds.</p> <p>9. Direct democracy: Using online voting and polling to solicit binding and non-binding input from citizens on referenda questions, to rank policy options or to assess the public's reaction to the course of a parliamentary debate in real-time.</p>	<p><i>Proposal:</i> Deliberative polling could provide the DBT with digital channels to invite far broader participation than current analog models permit. Polling could open parallel arenas for debate or could be integrated into existing models.</p> <p><i>Proposal:</i> Digital brainstorming could enrich the DBT's consensus conferences by dramatically increasing the range of perspectives presented to participants.</p> <p><i>Example:</i> When the USDA solicited feedback on its proposed National Organic Program the response was overwhelming. The OAS and the Scottish Parliament also undertook online consultations, but with far less dramatic results</p> <p><i>Example:</i> The Scottish SCVO's millennium project includes special Web events that allow real-time conversations between Members of Parliament and their constituents</p> <p><i>Proposal:</i> Scotland's Civic Forum could provide a good test-bed for non-binding direct democracy experiments on issues of current concern to the Scottish people.</p>	<ul style="list-style-type: none"> • Moderated chat rooms • Asynchronous newsgroups • Listservs • Online conferencing • Chat • Video conferencing • Discussion groups • Online surveys • Chat • Discussion groups • Video conferencing • Electronic mail • Secure voting and polling systems • Authentication software • Wireless devices • Web- interfaces
<p>Internetworking</p>	<p>10. Policy networks: Forming networks that encourage close interaction and collaboration among various actors within a policy space.</p>	<p><i>Example:</i> OAS's Trade Unit oversees an extensive policy network created to support ongoing negotiations on the FTAA</p>	<ul style="list-style-type: none"> • Video conferencing • Listservs • Online conferencing

Policy-making imperatives	Innovation	Examples and proposals	Enabling technologies
	<p>11. Policy intranets: Developing policy intranets that would link policy makers and public servants to leverage public servants' knowledge and experience gained from the "operationalization" of policy. Policy intranets could exist within one department or extend to different departments or levels of government to enable sharing of best practices and to facilitate coherence in policies goals and outcomes.</p> <p>12. International policy exchanges: International online forums for creating stronger linkages among policy-makers in different nations. These forums could be used for benchmarking and comparing national policies and outcomes or assessing how policy options might be enhanced or constrained by the emergence of supra-national institutions.</p>	<p><i>Example:</i> A policy intranet currently facilitates exchange of information among Members of the Scottish Parliament, but it also links the legislature to all levels of government in the UK.</p> <p><i>Example:</i> The CHM network of Web sites allow policy-makers to contribute their national or sub-national policy strategies to an international knowledge bank on biodiversity</p>	<ul style="list-style-type: none"> • Listservs • Intranets • Databases • Video conferencing • Listservs • Online conferencing
<p>Responsiveness</p>	<p>13. Scenario planning: Building scenarios with simulation and policy needs and to understand the long-term consequences of decisions modeling software to project future by assessing the potential impacts on a range of factors ranging from health to the environment to the economy.</p> <p>14. Datamining: Tracking the effectiveness of policy by cross-referencing or integrating public and private databases and running queries to surface issues and alert policy-makers to important trends that merit a policy response or adjustment.</p> <p>15. Decision-support systems: Speeding up decision-making with systems that can break down complex information and provide a range of possible explanations and appropriate responses.</p>	<p><i>Proposal:</i> The Danish Board of Technology's scenario workshops have obvious parallels with digitally enabled simulations. Scenario planning may also prove beneficial for CHM participants in planning policies that protect biological diversity.</p> <p><i>Example:</i> The CHM makes effective use of online databases, but should continue to improve the capacity of the system to integrate new data from diverse sources in order to track the effectiveness of the implementation of the Biodiversity Convention.</p> <p><i>Proposal:</i> The Danish Board of Technology could improve the effectiveness of its current policy role-playing models by enabling participants to integrate more diverse information and generate a greater number of options.</p>	<ul style="list-style-type: none"> • Modeling and simulation software • Data capture and processing • Spreadsheets • Online databases • Decision-support software

Policy-making imperatives	Innovation	Examples and proposals	Enabling technologies
	<p>16. Onsite evaluation and feedback kiosks: Enabling a continuous feedback loop between policy and implementation by replacing the pens and paper slips with electronic kiosks at point of service. Kiosks would enable citizens to provide policy makers more instantaneous feedback on programs. Feedback could be fed directly into knowledge management systems so that policy-makers could identify problems and respond more quickly.</p>	<p><i>Proposal:</i> Point of service kiosks could be a valuable addition to the Scottish Parliament's repertoire for citizen engagement</p>	<ul style="list-style-type: none"> • Kiosks • Web interfaces • Surveys • Knowledge management systems
<p>Informed</p>	<p>17. Collaborative filtering: Harnessing the collective wisdom of a wide range of participants by using rating systems and collaborative filtering to help limit the quantity of information and inputs in the policy-making process to the best available sources of information.</p> <p>18. Search and retrieval: Deploying specialized search engines and intelligent agents to search and retrieve policy-related information that can be classified, organized and disseminated to policy actors.</p> <p>19. Learning communities: Networking policy-makers with researchers and thought leaders from multiple disciplines and organizations within academia, the private sector and civil society to enhance learning, deliberation and understanding in policy webs.</p> <p>20. Knowledge archives: Collecting the experience and points-of-view of policy actors with collaborative tools for sharing, creating and organizing knowledge throughout the policy-making process.</p>	<p><i>Proposal:</i> Collaborative filtering might have been used to help organize the hundreds of thousands of citizen responses, thus preventing delays caused by the USDA's current formulation-consultation methods.</p> <p><i>Example:</i> CHM's BioSeek search engine helps users find information related to biodiversity on the Internet. As agents and bots become more sophisticated, these tools should be integrated into BioSeek's functionality.</p> <p><i>Example:</i> The CHM is a learning community that brings together local, national and international decision-makers and a roster of experts to facilitate the exchange and understanding of technical/scientific information on sustaining biological diversity</p> <p><i>Example:</i> The USDA took steps to ensure that all responses regarding the proposed organic standards were posted on its web site for review. Yet while governments often archive policy documents online, few have explored innovative methods for creating and organizing knowledge with online tools.</p>	<ul style="list-style-type: none"> • Collaborative filtering technologies or peer rating systems • Sensors • Intelligent agents or bots • Online databases • Internet-enabled research knowledge networks • Hypermedia authoring software • Online databases

Overcoming the perils of digital-era policy making

Each of the five imperatives of digital-era policy making carries risks. Policy-makers need to be wary of the need for both planning and an appropriate mix of digital-era policy-making strategies.

Transparency

It's hard to find fault in greater transparency, but the core concerns raised by increased access to public information are privacy and security. The transition to online service delivery will make a great deal more public information readily available to policy-makers, and in many cases, the general public. Much of this information will be valuable in measuring the success of policy and identifying new needs, but personal information needs to be protected from potential abuses. In the United States, a number of Web sites run by commercial interests and advocacy groups are positioned as independent intermediaries for citizens to debate and share information on public policy issues. Few restrictions are in place on the use of the data gathered by such sites. Policy webs will need to create safeguards to ensure that sensitive information is not sold to third parties or used in political campaigning or fundraising by unscrupulous politicians.

Participation

Without innovation in the process and culture of public deliberation, digitally enabled citizen engagement will merely amplify the voices that are already heard in policy-making. Some of the challenges for policy webs include: addressing social and political divides, ensuring there is an explicit relationship between citizen input and policy outcomes, and providing trusted public space (established by neutral third parties such as the Scottish Civic Forum) where participants of all political persuasions will engage in policy deliberation. Most important, policy webs are an antidote to simplistic surveys that pose either/or or limited multiple-choice questions. More substantive deliberative models such as citizen juries, online consultations, deliberative polling and virtual question periods are leading options for broadening participation.

Internetworking

While organizational networking and cross-jurisdictional partnerships will be central to successful policy-making, policy-makers will face

difficult challenges in addressing the democratic deficit as decision-making power is transferred to non-state actors and centralized in supra-national institutions. Policy webs need to establish a series of checks and balances that flow through multiple political arenas and cover existing institutional gaps. The most fruitful innovations will come in structures that are founded on extending representational principles into international arena by broadening concepts of franchise and constituency beyond geographic definitions.

Two primary models suggest themselves:

- New international constituent assemblies that form around specific issues and draw representatives from geographically-defined communities as well as interest-based associations of market and civic actors that meet criteria for intra-organizational democracy and representation.
- New inter-governmental structures that unite political jurisdictions to resolve common issues, such as the European Union and other subcontinental alliances of nation-states, as well as groupings of subnational jurisdictions or even local confederations that cross existing boundaries to form regionally-based governance bodies.

Responsiveness

The combination of growing uncertainty, rising citizen and market expectations, and increasing media scrutiny is forcing policy makers to make public decisions more often and in shorter time-spans. This surfaces two key challenges: 1) incorporating the dynamism of a "sense-and-respond" or "event-driven" model of policy-making while maintaining transparency and participation, and 2) managing the risk of failure that will surely accompany faster decision-making cycles and greater experimentation and innovation in the process of policy-making.

Digital-era policy webs have two advantages in coping with these realities:

- *Sharing the risk and responsibility with new participants.* Forming broader and stronger networks with a broad range of institutions in society will enable policy webs to stay more attuned to emerging policy needs and provide the complementary resources and competencies to

address them. Sharing risk and responsibility among stakeholders will create incentives to work collectively toward a shared vision and policy outcome. Failures will inevitably occur, but all participants can share the blame and consequences.

- *Harnessing new information technologies.* Policy webs can adopt a number of new technologies to enable better understanding of the long-term consequences of policy options (e.g. simulation software for scenario planning); to track the effectiveness of policy through continuous feedback loops (e.g. datamining and onsite feedback kiosks); and speed-up the decision-making process (e.g. decision-support systems).

Informed

While steadily improving the information available to policy-makers, the use of poorly designed information management technologies can backfire. Policy-makers will need to establish norms and customs for the appropriate and accountable use of these technologies. Too casual a style of use of filtering tools, for example, can lead to ill-informed analysis. Collaborative filtering technologies on the other hand, offer a democratic opportunity to broaden the range of participants and points-of-view. Similarly, policy webs should aim not only to improve the flow of information to participants, but also to extend the knowledge to a broader public audience.

More sophisticated tools for making information available to policy-makers is not automatically accompanied by equal improvement in the distinctly human functions in policy-making that call for judgment, discretion, initiative and tacit understanding. As John Seely Brown and Paul Duguid argue in *The Social Life of Information*, “. . . we need not simply more information, but people to assimilate, understand, and make sense of it.” Networked learning communities and knowledge archives are two of the leading options for policy webs. Both are uniquely suited to the multinodal nature of the Internet and the interactive potential of hypertext (or hypermedia). Unfortunately, not nearly enough thought, effort or resources have been applied to the development of applications with the capacity to capture, organize and share knowledge for processes as complex as policy making.

Future vision

The promise of digital-era policy making is that of a continuous circle of policy innovation and adaptation that integrates the knowledge and experience of a broad range of stakeholders in government, business, and civil society. In the internetworked policy webs of the future, decision-making will be the product of consultation and collaboration within networks that assemble around relevant political issues. Governments will abandon their monopoly over the policy process in favor of participatory models that invite input—and ownership—at all stages of development, from problem definition, to analysis, to identifying strategic options.

Digitally enabled knowledge management tools will allow governments to break away from isolated policy circles and develop systems to share information across departments and across borders. The five imperatives—transparency, participation, internetworking, responsiveness, informed—will shape a new, outward-looking policy culture and will encourage the growth of policy webs as a crucial resource for anticipating changes in the social and economic environment.

Innovation and experimentation, coupled with a willingness to share control over policy development, will enable profound changes in the culture, structure, and process of policy making. While opportunities for creative digital-era policy strategies will depend on the cultural and political constraints of individual governments, policy-makers at all levels harness the power of the Internet to build knowledge, and to contribute their own experiences to emerging policy webs.

—Anthony Williams and Heidi Hay

ENDNOTES

- 1 See, http://www.worldbank.org/devforum/forum_globalization.html
 - 2 Stephen Coleman, *Strong Representation: Engaging citizens in a digital age*, (Governance in the Digital Economy, 2000)
 - 3 See, <http://www.mmv.vic.gov.au/>
 - 4 "USDA Plans Organic Food Standards", *Associated Press*, March 10, 2000.
 - 5 There were three major areas of controversy in the draft: the treatment of genetically engineered foods in the definition of organic; the use of industrial waste as fertilizer (the so-called toxic sludge); and the use of irradiation in the production of organic foods.
 - 6 "Special Letter from Secretary Glickman to 1997 Proposed Rule Commenters, March 7, 2000, <http://www.ams.usda.gov/nop/secletter.htm>
 - 7 Lee Keely and Keith Jones, "Digital Democracy: Government in the Sunshine", NOP Presentation on Electronic Rulemaking, <http://www.ams.usda.gov/nop/nop2000/nopfose.ppt> (May 10, 2000)
 - 8 Based on approximate average monthly page views of 295,000 from January-April, 2000." Web Server Statistics for the Scottish Parliament", Scottish Parliament Web site, <http://www.scottish.parliament.uk/reportapr.html>
 - 9 As of May 15, 2000 there were 198 petitions posted on the Web pages of the Scottish Petitions Committee. http://www.scottish.parliament.uk/parl_bus/petitions.html
 - 10 Both examples are detailed on the Public Petitions Committee pages of the Scottish Parliament's Web site, http://www.scottish.parliament.uk/parl_bus/petitions.html (May 15, 2000)
 - 11 Ida-Elisabeth Andersen and Birgit Jaeger, "Danish participatory models" (Science and Public Policy, October 1999). <http://www.tekno.dk/metod/powfold.htm>
 - 12 European Commission's Innovation Program, information pages, *Training and Dissemination Schemes & Projects*, CORDIS, <http://www.cordis.lu/tdsp/src/flexiprj.htm>
 - 13 ISP press release, "U.S. Consultation on OAS Public Participation Strategy", August 17, 1999, <http://www.ispnet.org/usa.html>
 - 14 Clearing-House Mechanism information page, "Background of the Convention" <http://www.biodiv.org/conv/BACKGROUND.HTML> (May 14, 2000).
 - 15 "Independent Review of the Clearing-House Mechanism Pilot Phase, Draft Final Report, http://www.biodiv.org/chm/Review/draft_review.html (May 13, 2000)
- 16 John Seely Brown and Paul Duguid, *The Social Life of Information*, (Cambridge: Harvard Business School Press, 2000).