

Chapter 9. ICT Policy and e-strategy

9.1 Information Policy

Information Policy is the set of interrelated principles, laws, guidelines, rules, regulations, and procedures guiding the oversight and management of the information life cycle.

Information policy is comprised of laws, regulations, and doctrinal positions – and other decision making and practices with society-wide constitutive effects – involving information creation, processing, flows, access, and use. Marking the boundaries of the domain with “information creation, processing, flows, access, and use” provides a synthetic and succinct heuristic that meets important evaluative criteria.

This definition of the information policy domain has repeatedly demonstrated its utility for identifying the information policy elements in a wide variety of types of legal instruments, from arms control treaties to Supreme Court decisions. It is as valid for studying the history of information policy as it is for proposed laws under debate today. It is comprehensive. Whether the subject under discussion is access to government information, mass media, the census, research funding, or network neutrality, this approach makes it possible to analyze the issue at hand through common lenses. Indeed, it provides a means of identifying information policy issues that may not have historically been evident despite their constitutive impact, such as export controls, the census, and rules for accounting systems. It is theoretically sound, based on economic, social, political, and cultural theories explicated in depth elsewhere in my work and that of many other authors. It is methodologically operationalizable; that is, it is a definitional approach that can be easily incorporated into the operational details of uses of a variety of research methods. And it is translatable into the multiple languages in which the audiences of information policy speak, from those of traditional types of legal analysis to the narratives of popular culture.

Note: The information life cycle constitutes the phases such as production, collection, distribution/dissemination, retrieval and retirement of information.

9.1.1 Importance

Information policy has become one of the most important aspects of public policy due to:-

- The growing importance of information as a major factor of production and wealth creation. Information policy can play a pivotal role in :

- industrial and commercial competitiveness;
- employment and the creation of high value-added job opportunities;
- lifelong learning and the effectiveness of the education and training system;
- social inclusion and access to services and opportunities;
- healthy living and the effectiveness of the National Health Service;
- the efficiency and effectiveness of public services;
- participation in the democratic process;
- regional development;
- cultural identity and diversity;
- intellectual rights
- A growing concern about privacy.
- The advances in information technology which made the collection, processing and dissemination of data on individuals very inexpensive.

9.1.2 Areas of Concern for a National Information Policy

There are three main areas of concern that can be identified for a National Information Policy. These are:

- (i) Connectivity**
- (ii) Content**
- (iii) Competencies**

i. Connectivity

Connectivity incorporates ideally three areas, which are:

(a) Information Networks - For creating the information networks, a policy should set out a strategic approach to the development of the nation's information networks. This policy should :

- Provide a framework within which public and private investment can be planned.
- Specify the preferred approach to regulation to ensure that the networks operate efficiently and for the public good.

(b) Access - The provision of universal access requires that networks are available as widely as possible in institutions and homes. This policy should :

- Specify a strategy to ensure access for key organizations and individuals such as schools, libraries, and those in isolated rural areas.
- Set pricing strategies that does not exclude people from network access.

(c) Interoperability - To ensure interoperability, one has to focus on the different devices making up the ICT. Given the rapidly changing technological environment, there will be a variety of technologies, networks and platforms that can be used to deliver information, including computers, telephones and digital television. The policy should include provision to ensure that there are no barriers to the citizen from lack of interconnectivity between the networks.

ii. Content

This includes:

- (d) Creation of core content
- (e) Ensuring delivery of this content
- (f) Protection of the citizen
- (g) Provision of free access to core information

(a) Creation of core content - This requires a considerable amount of public information which has to be provided by public sector institutions together with the private sector. The policy should, therefore, set out a strategy that will ensure that public support is available for the development of the needed information content.

(b) Delivery of content - Effective delivery over the networks requires the development of appropriate information retrieval aids and navigation tools. Government departments and agencies must look for innovative ways of presenting information to citizens, cutting across institutional boundaries. Training and awareness programs will be required to ensure target markets are reached efficiently. This policy should indicate how these issues are to be addressed.

(c) Protecting the citizen - This is an ethical issue that requires regulatory mechanisms. The information policy should address a range of legal and regulatory issues including privacy and data protection, intellectual property rights, censorship or fraudulent use of the networks and legal deposit of intellectual property. The rapid development of e-commerce will generate further requirements for regulation in the consumer interest. To ensure the rapid take-up that the Government seeks, the e-envoy will need to make issues of consumer confidence a priority.

(d) Free Access - To have free access to core information a policy will need to cover rights of access to information. Individuals already have rights in some countries to access personal information about themselves and there are some rights of access to local government information. However more work will be needed on securing and safeguarding access free at the point of use to citizenship information that is already in the public domain.

iii. Competencies

These include:

- (h) Development of universal information literacy
- (i) Supply of information specialists
- (j) Creation of information strategies for organizations

(a) Development of universal information literacy - To develop universal information literacy effort is required to develop a base level of information literacy for everyone. The policy should set out a strategy for the achievement of this. It should encompass a wide range of skills, including numeracy, literacy, computer and information retrieval skills. It must be delivered at a variety of levels throughout the formal and informal education processes, and it should take advantage of the full range of delivery methods now available, including digital networks.

(b) Supply of appropriately skilled Information Specialists - The National Information Policy must address the need to ensure that there is an adequate supply of appropriately skilled information specialists to maximize the value of information for individual users and organizations through processes of collection, organization and dissemination.

(c) Creation of Information strategies for organizations - National Information Policy should establish a framework to promote information strategies for organizations. Government departments should develop a comprehensive set of information policies to maximize the impact that information can have on consumers and on service providers. Similar approaches are needed by other publicly funded bodies. Information skills handling should be explicitly identified in any national initiatives designed to improve management and human resources skills.

9.2 Contributions of Information Policy

A National Information Policy framework will contribute to :

- ✓ **Modernizing Government** - The agenda for a modern government requires that information flows are managed as effectively as possible within government and between government and citizens and businesses.
- ✓ **Building a Knowledge-driven Economy**-The planned transformation of industry and commerce will place a premium on the effective use of information and knowledge.
- ✓ **A Better Environment for E-Commerce** - Better co-ordination is needed between Government and industry to gain maximum benefit from existing and proposed programmes. Ambitious targets for electronic transactions with Government will depend on coordination across Departments and Agencies.

- ✓ ***Improving Educational Effectiveness*** - Curriculum developments such as teaching thinking skills will depend for their effectiveness on children and young people having access to the information they will need to support their learning; lifelong learners will need co-ordinated guidance on all the opportunities open to them.
- ✓ ***Avoiding Social Exclusion*** - Many current information developments could exacerbate social exclusion, further isolating the information have-nots from the rest of society. We need policies to ensure that no- one is excluded from the benefits of an inclusive information society.
- ✓ ***Strengthening Cultural Identity*** - Technological development offers opportunities to articulate and promote minority cultures. At the same time, the global nature of the cultural communication system puts national cultures under threat.

9.3. What Are ICT Policies And E-Strategies?

National ICT policies help guide a country or jurisdiction in its use of these tools and secure the benefits of the information economy for all. ICT policies require to be planned in order to marry the needs of people with the opportunities and possibilities that are available through the use of ICTs. Policy-making must be based on the best information and intelligence available. It should be undertaken in consultation with stakeholders to help secure beneficial and realistic outcomes. ICT policies deal with issues related to information dissemination and use as well as issues related to the spread and use of the technology itself.

This manual considers both. Policies alone address specific issues. When considering a larger whole, such as the development needs of a community, jurisdiction or country, it is necessary to think in terms of a strategy, in this case an e-strategy. A strategic approach denotes a process involving analysis of priorities and constraints before arriving at a recommendation for the resolution of a given issue. One of the main objectives of ICT policies and strategies is to ensure the greatest possible diffusion of ICTs, commensurate with national needs, ambitions, specificities and concerns. Thus, information and ICT policies must take into account local, national and international issues, as well as sectoral concerns. An ICT policy for national development requires policies for learning and education, government, private sector and industrial development, local and community development, empowering women and other groups, and promoting research and development especially in applied sciences. Only then will it ensure that content on the Internet is relevant and reflects national specificities while protecting IPR, and so on. The strategy to deliver ICT policies has to consider institutional and operational issues.

An action plan details the organization required to implement the strategy. ICT policies and strategies need to be integrated into broad development concerns and mainstreamed into all aspects of society and of development planning. Since these issues are largely cross-cutting and interrelated, a participatory mechanism is essential to ensure that policies will correspond to real concerns and be supported by stakeholders. For the same reason, it will be useful to consider establishing an independent entity created by the government or identifying an independent organization or a not-for-profit association to manage and implement the ICT strategy. e-Strategies are plans based on the selection of scenarios and options for applying ICTs to national development. They apply specifically to sectors such as e-commerce, e-government, e-learning (which is sometimes confused with distance learning), e-health (which is sometimes confused with telemedicine), and related e-enabled sectors and activities. Simply put, these e-enabled activities are the application of ICTs to the usual business processes that are specific to each sector and area of human activity. In some cases, the introduction of ICTs radically transforms the way things are done. A good example of this is the introduction of Voice over IP (VoIP) technologies or EDI applications.

9.4. Approach to ICT Policy Formulation and e-Strategy Development

1. Review existing policies and plans.

The starting point in ICT policy formulation is a review of existing vision statements, policies and legislation, as well as proposed policies or policy directions. This includes developing an understanding of national and other development policies and plans, including national poverty reduction strategies. 2. Consider the regional context. Initial work in learning about the policy environment may also require understanding the regional context. This is important especially if the country in question belongs to or is interested in integrating with a regional or other trading block and/or establishing free trade agreements on a bilateral basis. Regional agreements may stipulate conditions that affect ICT diffusion.

2. Consider the regional context.

Initial work in learning about the policy environment may also require understanding the regional context. This is important especially if the country in question belongs to or is interested in integrating with a regional or other trading block and/or establishing free trade agreements on a bilateral basis. Regional agreements may stipulate conditions that affect ICT diffusion. Similarly, as a result of the widespread use of satellite technologies, the growth and meshing of computer networks of various

types, and the proliferation of fixed and mobile wireless solutions, cross-border agreements may also have to be considered.

Indeed, there may be real advantages to a common approach to the diffusion of ICTs. Just as in some regional trading blocks, electricity grids are established across national and other boundaries to share regional resources, so may high-speed broadband connections be shared in this fashion as IP networks are considered a public utility. Indeed, sharing of undersea cabling is essential for justifying the business case for these investments. Today, they represent significant assets and opportunities for countries with the landing rights for the cable access points. In Mongolia, a fiber-optic network crosses the country from north to south as it follows the path of the main railway line. The southern terminus of this line meets a Chinese railhead with its own fiber-optic cable. The potential of linking such infrastructure exists and the idea of creating another transcontinental fiber link to Russia and Europe via Mongolia could be contemplated.

3. Keep a broad perspective.

As already mentioned, ICT policy-making has the greatest chance of being successful when undertaken in a pro-development way, as the Digital Opportunities Initiative (DOI) report has shown. The DOI, a research project completed in 2001 by UNDP, the Markle Foundation and Accenture, examined the evidence of ICT diffusion around the world while looking at the evidence of success and failure. The next step is to consult extensively with key development stakeholders, starting with government decision-makers and policy-makers. Parliamentarians may also need to be approached.

Parameters of ICT Policy Development (the 5 Cs)

The following parameters have to be considered during ICT policy-making and strategizing.

Connectivity

- Provide the greatest access to ICTs as possible, but ensure that rollout is demand-driven as well as equitable and consistent with the need to ensure universal access. The state and/or privatized telecommunications operators must undertake a market survey to decide on the extent of their investments in connectivity.
- Put in place policies that guarantee a given level of service to the consumer and that mandate regular audits of network performance and service delivery by the regulator. This is part of a requirement for reviewing and revising the needs and rights of the consumer to be protected from fraud and other wrongdoing in cyberspace. Many, if not most, service providers deliver less than the nominal levels of service (bandwidth is the most common or obvious one) that they promise to their clients, and this has to be dealt with by the law.

- Privacy and confidentiality policies, regulations and laws need to be put in place, recognized by the law, and respected. It is important to respect the privacy of people and organizations while ensuring connectivity. Thus, it may not be a good idea to centralize all databases with personal information in one government facility. · The question of universal access will have to be considered and a model discussed. Universal access provisions are very difficult to guarantee and are usually laid out over long time scales because of the need to pay for the investment and the limited capacities of operators and governments to do so all at once. · Recognize the role of community or public access: cyber cafes and cyber centers, community access centers and telecentres. In many countries, community access centers or their equivalent are the cornerstone of e-government.
- There are special considerations for the private sector. Techno Parks and intelligent buildings may be useful applications and investments if they are backed by comprehensive business and marketing plans and studies. In the case of intelligent

buildings, the building code may need to be modified accordingly. Incentives to allow the private sector to connect and to compete are also important. · Peering arrangements need to be made to ensure that the telecommunications service providers (GSM operators, ISPs, paging companies and fixed line operators) can interconnect their networks locally.

Community

- Promote the use of ICTs for local and community development. This is especially important to help bridge the digital divide and to provide local access to the Internet and other government applications and services.
- Enact policies to encourage community participation at all levels. Non-discriminatory clauses may be required. 47 ICT Policy Formulation and e-Strategy Development
- Enact policies to encourage early adoption of computers and related technologies and skills for learning, in association with community resources such as schools.
- Adapt Smart City or Smart Community ideas: local and community- or municipality based policies to encourage the development of an e-enabled community. Incentives to encourage this may be required, as well as examples of best practices.
- Harness the research and learning community by focusing on policies that will encourage the deployment and use of ICTs in research, development and learning. Special applications can include distance learning and ICT-assisted learning activities in general. The R&D community can benefit from the use of ICTs to access research and grant-making opportunities.
- Promote the use of ICTs by the medical profession, in hospitals and medical centres, as well as in community and other public access sites and facilities.

Capacity

- Develop policies that will encourage learning.
- Raise awareness of the importance of a government and civil service dedicated to serving the public. Develop a service mentality among politicians and the civil service about the role of government as a service and a public good. Training and education are part of this.
- Build capacity for managing change in the public sector as a prerequisite to the

introduction of e-government and greater access to public information and services.

- Provide incentives and tax breaks for learning and using ICTs. For example, students, educators and researchers can import and purchase PCs free of tax.

- Encourage ICT manufacturers and others to establish ICT technical training facilities locally. The Cisco Academy endeavour is one example; there are others. · Encourage the private sector to make educational software and hardware more affordable to students. Apple and Microsoft already have these policies. Collaboration · Ensure that ICT policy development takes place in an open and collaborative fashion, consistent with the principles of human development.
- Encourage peering; ensure that networks interconnect locally, where the costs are lowest. · Strengthen the regulator to make sure that it can intervene to promote a level playing field in the marketplace and to recognize and limit uncompetitive and/or monopolistic behavior.

Cash ·

- ICT policies should result in the development of a realistic and doable ICT Action Plan that includes several proposals for bankable projects that can be submitted to and considered by a variety of potential investors, donors and supporters. · Develop policies that will encourage access to credit for the purchase of PCs and related technologies. · Encourage investment through fiscal and other financial incentives.
- 48 ICT Policy Formulation and e-Strategy Development

- Encourage public-private partnerships that will bring much needed expertise, management and financing to the table.
- TNCs have significant skills and resources that countries may more readily access through joint ventures and/or other partnership arrangements.