

Intellectual Property in Public Sector Information: *Policy Considerations*

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We all communicate. We use all our senses and use different methods in different contexts. And we are expert in some forms of communication and not so good in others.

This presentation is about the largest sources and types of information that is used by societies everywhere, all the time, that is Public Sector Information, or PSI, on digital networks and its intellectual property management.

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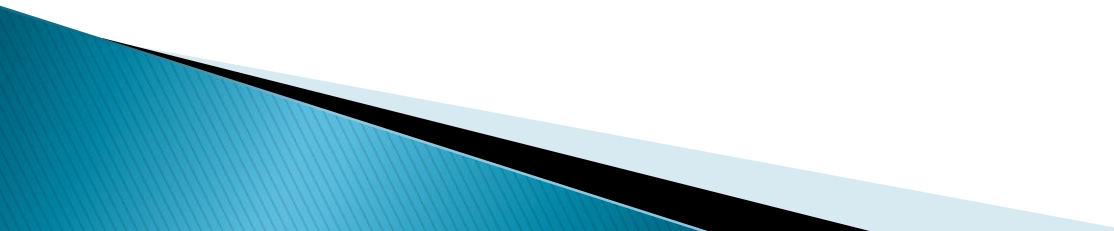
IP in PSI

What is “Public Sector Information” (PSI)?

PSI may be defined as “a category of documents and datasets that are the object of legal rights, encompassing works of any nature such as data, statistics, metadata, administrative documents, records, compilations, databases and other information resources that are produced or retained for official purposes by public sector [governmental] bodies.”

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Focus of my remarks:

- ▶ Changing context for PSI
 - ▶ Guiding principles for the new context
 - ▶ The value of openness
 - ▶ Legitimate limitations on openness
 - ▶ Established and emerging models
 - ▶ Some concluding observations for the future
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Comparison of some key characteristics of the physical printing and digitally networked paradigms:

PRINT

- ▶ (pre) Industrial Age
- ▶ fixed, static
- ▶ rigid
- ▶ physical
- ▶ local
- ▶ linear
- ▶ limited content and types
- ▶ distribution difficult, slow
- ▶ copying cumbersome, not perfect
- ▶ significant marginal distribution cost
- ▶ single user (or small group)
- ▶ centralized production
- ▶ slow knowledge diffusion

GLOBAL DIGITAL NETWORKS

post-industrial Information Age
transformative, interactive
flexible, extensible
“virtual”
global
non-linear, asynchronous
unlimited contents and multimedia
easy and immediate dissemination
copying simple and identical
nearzero marginal distribution cost
multiple, concurrent users
distributed production
accelerated knowledge diffusion

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**Principles for deconstruction of print-paradigm models for PSI
and its reconstruction in the digitally networked context:**

Public good – the economic principle

Public domain – the legal principle

Public interest – the socio-political principle

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Economic Principle 1

**Maximize the public good aspects of
Public Sector Information**

Public good = non-depleteable and non-excludable

PSI is a “quasi” public good

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Economic Principle 2

**Take advantage of the near-zero marginal cost
for dissemination of PSI**

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Economic Principle 3

Bridging the “digital divide” must include reducing the “content divide”, especially for public information

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Legal Principle

The value of PSI on digital networks is maximized by allowing and enabling its broad re-use in the public domain

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Socio-political Principle

The public interest is best served by openness of PSI

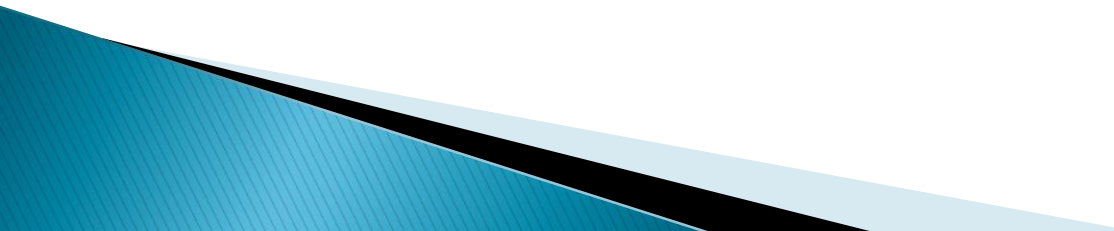
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There are many advantages of open access to and unrestricted reuse of Public Sector Information:

Economic Benefits

- **Supports economic growth; and**
- **Generally provides greater returns from public investments in data and information activities through network effects.**

Enhancing the Social Welfare

- **Evidence of societal benefits, both individual and collective**
 - **Meeting society's expectations for access to and use of digital information**
 - **Promoting reputational benefits; and**
 - **Implementing ethical principles.**
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Benefits of Open Access and Unrestricted Use to PSI (cont'd):

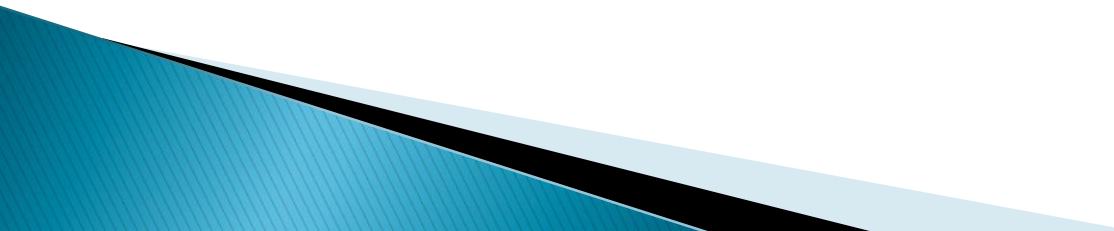
More Effective Governance and Policy Making

- ▶ Improving decision making;
- ▶ Demonstrating leadership and broadening influence;
- ▶ Promoting capacity building in developing countries;
- ▶ Helping to implement “data repatriation” objectives of developing countries; and
- ▶ Building freedom and trust.

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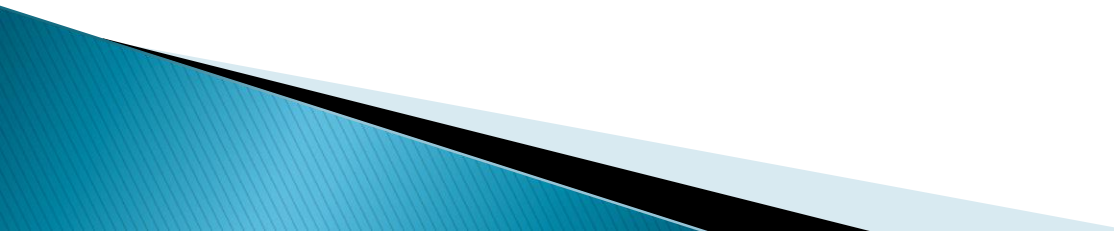
Benefits of Open Access and Unrestricted Use to PSI (cont'd):

Stimulating Research, Innovation, and Education Opportunities

- ▶ Encouraging the verification of previous results;
 - ▶ Enhancing interdisciplinary and international research;
 - ▶ Enabling data and text mining;
 - ▶ Permitting interoperability in the creation of new data sets;
 - ▶ Reducing inefficiencies, including duplication of research;
 - ▶ Facilitating citizen scientists and crowdsourcing approaches;
 - ▶ Stimulating downstream applications and commercial innovation; and
 - ▶ Facilitating the education of new generations.
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Legitimate restrictions on public access to or use of government or government funded data and information for:

- ▶ National security and public safety
 - ▶ Personal privacy
 - ▶ Confidentiality
 - ▶ Respecting proprietary rights of private-sector parties or commercial potential of research
 - ▶ Exclusive use of information prior to publication-embargo periods
 - ▶ Restrictions for specific reasons (e.g., endangered species, archeological digs)
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Broad implications of excessive restrictions (economic, legal, political, scientific & technical) on public and academic sources:

- 1) Higher costs (monopolization of public goods, transaction costs)
- 2) Lost opportunity costs (automated knowledge discovery, failure to capture full benefits of public investments for socioeconomic uses)
- 3) Barriers to innovation (new uses and serendipity limited)
- 4) Less effective cooperation and education
- 5) Widening gap between OECD and developing countries

***Openness* thus should be the default rule, “as open as possible but as closed as necessary”, subject only to legitimate and well-justified exceptions. But how to get there?**

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Existing digitally networked models for different information types:

- ▶ **Open-source software movement** (e.g., Linux and 10Ks of other software programs worldwide);
- ▶ **Open data centers and archives** (e.g., GenBank, Hubble Telescope archive);
- ▶ **Federated open data networks** (e.g., World Data System, Global Biodiversity Information Facility);
- ▶ **Open access journals** (e.g., > 13,000 scholarly journals in 130 countries—i.e., SciELO, Bioline International);
- ▶ **Open repositories for an institution's scholarly works** (+ > 4000 formally registered globally on Open DOAR website, plus 1000s more not registered)
- ▶ **Open repositories for publications in a specific subject area** (e.g., arXiv, CogPrints, PubMedCentral in US and UK);
- ▶ **Free university curricula and lectures online** (e.g., the MIT OpenCourseWare);
- ▶ **Open e-government initiatives** (Data.gov in US, many others worldwide); and
- ▶ **Emerging, integrated discipline or applications commons, peer production of information, and thematic open knowledge environments** (e.g., virtual observatories, wiki encyclopedias, multifaceted portals).

Future Challenges for PSI

- ▶ **Openness and the use of intellectual property rights**
- ▶ **Hyper-classification or overbroad restrictions**
- ▶ **Public-private partnerships**
- ▶ **Socio-cultural norms and attitudes**
- ▶ **Long-term sustainability of digital data and information**
- ▶ **Automated knowledge discovery**
- ▶ **PSI for good decision making**
- ▶ **PSI for development**

References

Selected works by the author on this topic (all free online):

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