

The Good Life

in Asia's
Digital 21st Century



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The Power of Observation: Making Research Visible, Accessible, and Usable for the Asian Digital Economy

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Research in digital form is now so abundant, in so many forms, on such a comprehensive array of topics, that it is somewhat surprising to find that while the Internet has done so much to make knowledge accessible, we still face numerous problems if we want to find, evaluate, access, understand and - most importantly - use, much of this information. Too much useful knowledge is locked up in expensive, subscription-only journals; too much data is never made public; too much material is lost through 'link rot', where links are not updated and lead users nowhere. The result is that the great potential of the Internet to provide universal access to information is not yet being realized. This essay considers the benefits and possibilities of an online 'observatory' focusing on digital economy and policy issues in Asia. We draw upon our experience developing an open-access, policy-oriented repository in Australia, which aims to make relevant research visible, accessible, and usable for policy-makers, journalists, advisors, activists, and advocates. Our work suggests that with some new ways of gathering and accessing information, initiatives such as observatories can improve the current fragmentation of knowledge across the Internet in ways that will benefit researchers, policy makers, public interest advocates, and society as a whole.

First, some background on the problem that observatories can help to address. We know that the circulation of information and the state of the Internet eco-system itself play a key role in the economy, politics, and society as whole. As Houghton writes, "In a knowledge economy, innovation and the capacity of the system to create and disseminate the latest scientific and technical information are important determinants of prosperity" (Houghton et al., 2009). The evidence suggests that high-income countries, which tend to place an emphasis on the production of high-technology goods and services, devote larger shares of their GDP to research and development (National Science

Foundation, 2014). In policy terms, the connection between information and positive social benefit is often taken to be axiomatic, as a recent UNESCO report illustrates. “How well an individual, an organization, and an entire society can harness, access, share, and make use of available information will ultimately decide their ability to generate economic growth and to enhance the quality of life for all” (Karan, 2011).

Discovery, access, and use of information are critical issues for those engaged in public policy research and advocacy. These are critical resources for freedom of expression, and for the ongoing debates over Internet governance and control. Pakistan’s Internet Policy Observatory (iPop; www.ipop.pk) is a remarkable example of this kind of initiative, and is an important Asian repository, associated with the Internet Policy Observatory at the University of Pennsylvania, Annenberg School. iPop aims to provide “researchers, governments, regulators, operators, multilateral institutions, development agencies and community organizations with the information and analysis required to develop innovative and appropriate policies for modern age digital technologies” (iPop, n.d.). However, despite the extraordinary capacities of the open Internet, the ability of individuals and organizations to accumulate knowledge and know-how is highly variable. One reason for this is that the issues we are dealing with, when it comes to the digital economy, are fragmented across many disciplines, involving economics, law, communications, information technologies, politics, sociology, public health, and education. The field also demands the coordination of knowledge and information across the sectoral boundaries of government, private enterprise, education, and community and non-government organisations.

We are now learning more about how research circulates in public policy contexts, and the evidence illustrates the need for new kinds of intermediaries that can supplement the traditional roles of libraries and publishers. Recently we have been involved in a study of the production, use, and collection of information and research for public policy and practice. We asked users of research for policy and practice what were their most important sources of information: 94% of survey respondents identified work produced by government departments and agencies; followed by university centres or departments (83%), NGOs (79%), scholarly or commercial publishers, (78%), think tanks (55%), and commercial research companies and consultants (31%). Survey respondents reported that the most important or very important resources that they use for their work are reports (81%), journal articles (75%), discussion papers (69%), briefings/reviews guides (66%), data sets (61%), conference papers and working papers (52%), and submissions and evaluations (45%) (Lawrence et al., 2014).

All this leads to what we believe is an important conclusion, and one that points to the important roles that policy observatories and other open access repositories are now playing. The key point is that a diverse range of

materials, produced by a diverse range of organisations, outside the boundaries of conventional scholarly or commercial publishing, are used and valued as much, or more, than conventional research outputs such as academic journal articles. Work produced outside formal publishing channels is often called “grey literature.” When asked to estimate, research end-users report that the grey literature makes up 60% or more of the material they consult for their work (Lawrence et al., 2014).

One reason for this is that the Internet has enabled online publishing by organisations and new forms of dissemination to flourish. In a separate survey of producing organisations across government, NGOs, education, and the private sector, more than 90% report that the most important reasons they produce materials are to provide an evidence base and to inform public policy debate and practice (Lawrence et al., 2014). For 84% it is to translate knowledge for public use, and for 79% to maximise public access to research and information (Lawrence et al., 2014). Despite these aims, a quick look through a selection of recent policy publications produced by organisations demonstrates a huge range of document types, production standards, and content quality. We find PowerPoint presentations, PDFs, and Word documents; material that may be unsearchable using standard search engines, and material that fail to meet basic accessibility standards.

Evaluating grey literature is a major issue for information users and information managers, and it is vital that organisations systematize production practices. However, with many producing organisations focused on the immediate policy argument or the next research project, there is a lack of systemic management of resources that are (in aggregate) worth billions of dollars in terms of the funds spent on production every year. Content is posted in a dispersed in an ad hoc way, and search engines are not always able to find key content on complex issues. This is where there is a role for digital libraries and observatories to improve discovery, access, and long-term preservation. Such intermediaries can provide the distribution and curatorial services that users need, and that organisations struggle with.

Traditional collection services have been slow to deal with the proliferation of online content. The result is that there has been a mushrooming of digital collections over the last decade, all attempting to provide discovery and access services for a range of interest groups. These provide a variety of research, publishing, and curatorial functions and go by many names including institutional repositories, disciplinary repositories, databases, clearing houses, policy observatories, portals, gateways, data hubs, knowledge hubs, and research platforms. From our research, we estimate that there are at least 500 subject-based digital collections of varying sizes and levels of activity around the world. One that we have been involved with is the Australian Policy Online (APO) database (apo.org.au), which has been cataloguing and collecting public policy related research and information since 2002 and now holds around

30,000 records from over 4500 organisations. At the other end of the scale, Amanda Lawrence - a co-author of this paper - recently joined the advisory group for the Global Internet Policy Observatory (GIPO), a European Commission funded project still in development and that has yet to go live (Global Internet Policy Observatory, 2015).

Given the funds already invested in databases and observatories, the cost of creating metadata, and the need for full text collections rather than linking (due to the problems of link rot) we believe the best option for an Asian digital repository would be to work with one or more of the existing collections and their associated software systems, such as APO, GIPO or others. Respondents to our survey regarding research use reported being frustrated: on the one hand, search engines struggle to reveal the links between documents, while on the other hand the multiplicity of clearing houses fragments the task rather than making it easier. Unless there are major commercial investors, working with an existing repository may be the best option for operating long-term as a not-for-profit at a sufficient scale and with sufficient timeliness to be useful.

It is worth saying a little more about how these repositories work. The Global Internet Policy Observatory, for example, is a European Commission-financed experiment that provides large scale harvesting of web content that is then mined for metadata and taxonomies. At this stage, appropriate taxonomies are still being worked out and the project relies on digital content that already exists online at a monitored source. APO is a potential source for the GIPO harvesting system to pull both full text content and rich metadata across a wide range of policy issues. But APO also provides other services, with the potential for organisations and authors to publish and store their content, disseminate and measure audiences, classify and curate resources, and work with tools to analyze and visualize the database. Databases of this kind need to have intelligence built in. They must provide a level of detail and control for producing both what organizations and users need.

The topics covered by APO are broader than that of GIPO, encompassing education, law, economics, the environment, urban policy, housing, social policy, and much more. Such a wide angle is essential for a broad, multidisciplinary field such as the digital economy. Drawing the line too narrowly around what should be in or out of a repository is a trap. Emerging policy issues quickly cross the lines between topic areas: cybersecurity relates to public security, digital inclusion is related to regional economies, education, and poverty. In its review of information policy in Asia, UNESCO includes national policies, telecommunications infrastructure, the information industries in the public and private sectors, and legal and regulatory frameworks (Karan, 2011). A broad-based collection would allow users to access specific topics, as well as broader contextual and related material.

Within APO, a detailed metadata scheme allows users to explore the relationship between and across documents based on organisations, topics, research groups, time, and geographic locations. Collaborative, user-generated content and profile pages for organisations and individuals to post their own content or that of their research interests are garnering increased interest. A wide range of content types are hosted in the database including research and technical reports, open and licensed journal articles, datasets and surveys, discussion papers, working papers, literature reviews, guides and briefings, evaluations, audio and video, visualizations, and much more. APO is also a sophisticated, interoperable, linked database with a range of technical features and functionalities that are constantly developing and improving. Additionally, we are currently working on mapping the database scheme to schema.org to enhance interoperability and SEO, and we are able to export data as API, XML, and OAI. APO content is discoverable via World Cat and Trove as well as Google and, increasingly, Google Scholar. Future developments are likely to make it easier to reuse content, create sub-sites and a leaner, faster service. Working collaboratively to support long-term open access to universal information is the goal.

Our argument can be summed up in a few simple points. The capacity of people and organisations to find, evaluate, and use research for public policy development and practice can and should be better supported so that public interest debate can thrive. Researchers, business innovators, policy activists, and advocates now have access to more valuable information resources freely online than at any other time. But the abundance of new forms and the diversity of sources of contemporary research and information means that we need to devise and implement new ways to collect, preserve, and curate valuable material. Otherwise we risk losing as much as we gain, as relatively recent resources disappear or become progressively harder to find. An Asian digital economy observatory has the potential to act as a powerful facilitator of better evidence-based policy innovation in the region.

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