Data partnerships for major research challenges

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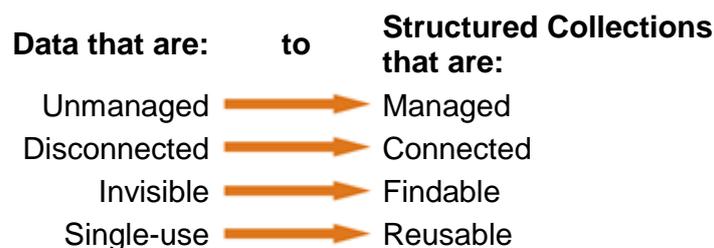
The Australian Government has, since 2007, invested heavily in e-Research infrastructure aimed at enhancing the productivity of Australia's research community and stimulating innovative research. This has enabled major investments to be made in a variety of research data collecting capabilities which include the Population Health Research Infrastructure Network (PHRN), the Australian Urban Research Infrastructure Network (AURIN), the Integrated Marine Observing System (IMOS) and the Terrestrial Ecosystem Research Network (TERN).

The investment process has also recognised the inherent market failure at institutional level in building infrastructure to facilitate efficient open access to research data. So as well as investing in gathering data for the benefit of Australian researchers, and their international collaborators, overarching investments to build national data capability have also been made.

The primary investments in this category have been the Australian National Data Service (ANDS), Research Data Storage Infrastructure (RDSI) and National e-Research Collaboration Tools and Resources (NeCTAR). The major focus of my talk will be on the role and aims of ANDS, although in terms of a national research data ecosystem, there are key dependencies on RDSI in providing national storage infrastructure, and on NeCTAR in providing the tools and cloud computing resources for data analysis.

ANDS role has been largely focused on understanding the needs and data capabilities of Australian research institutions, to focus on building the national capability.

ANDS stated vision is "More Australian researchers reusing research data more often". Its approach has been neatly encapsulated in the following four transformations of data:

Data that are:	to	Structured Collections that are:
Unmanaged	→	Managed
Disconnected	→	Connected
Invisible	→	Findable
Single-use	→	Reusable

The opportunities created by the rapidly accelerating scale of data capture for the global statistical community must be seen in the context of these transformations. They add significantly to the value of data and provide the means to foster collaboration. They also provide opportunities for innovative ways of thinking about data, its analysis and interpretation. Furthermore they provide a vehicle to enable statisticians to participate in teams researching major global challenges. The data revolution will spawn new research paradigms. It is thus timely for the statistical profession to think about the challenges and opportunities that this new paradigm represents.

Keywords: open data access; reusable; structured collections; enhancing data value.