Linked Semantic Platforms for Policy and Practice

ARC LIEF Project 2018 - 2019

Summary

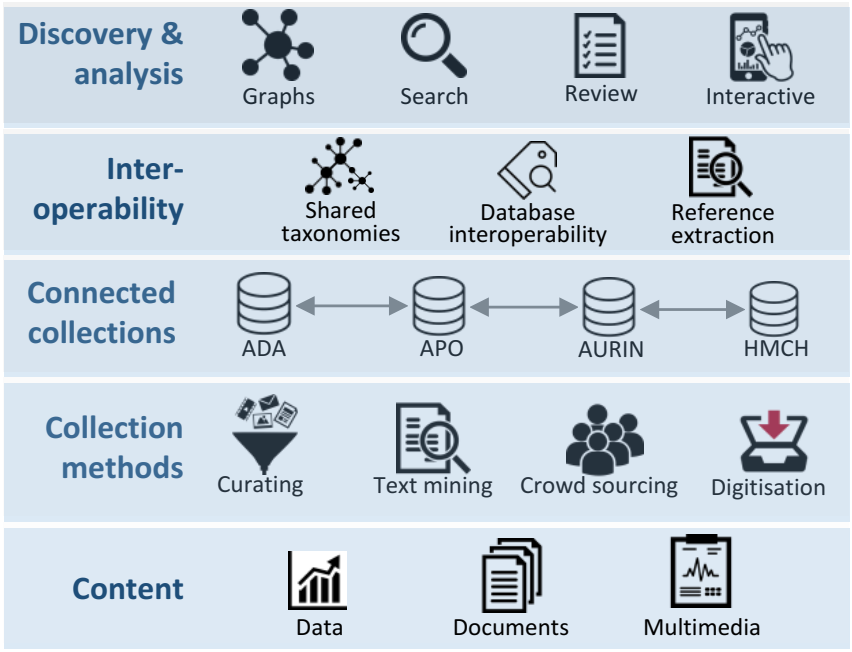
The Linked Semantic Platforms project is an ambitious, two-year multi-institutional and multi-database project that aims to revolutionise the way researchers are able to access, and analyse policy documents and data. The project aims to develop the next generation of decision-support tools for interdisciplinary research on critical public policy issues. The project will apply linked open data, knowledge graphs and collaborations across existing research infrastructure projects to improve interoperability across major social science databases and develop new analytical tools that will transform the research capabilities for evidence-based policy making. The project focus areas include sustainable built environments and transport in urban and regional communities, social care and health in the community, work and wellbeing, digital inclusion and digital health.

There are an increasing number of critical societal challenges and opportunities facing decision makers in public and private sectors that embody complexity and linkages that are multi-level, multi-scale, multi-stakeholder, multi-disciplinary. The information and knowledge required to undertake this kind of interdisciplinary policy research is often in the grey literature and across multiple datasets which are diverse, dispersed and difficult to find and analyse with traditional methods and tools (Lawrence et al 2014).

The Linked Semantic Platforms (LSP) aims to solve this problem through integrated systems, national and international collaborations and cutting edge information technologies involving four major platforms – Analysis & Policy Observatory (apo.org.au), the Australian Data Archive (ada.edu.au), the Australian Urban Research Infrastructure Network (aurin.org.au) and the Home Modification Clearing House (homemods.info).

The LSP project will use text mining and expert curators to create large-scale open access collections of key policy documents and data (grey literature), house them in linked databases with interoperable ontologies and standards, and apply cutting edge technologies such as semantic graphs, open notebooks and open peer review to enable researchers to see the relationships between entities in ways that are not currently possible.

From documents to data: maximising the benefits of textual materials



The digital world is growing at an exponential pace from two billion objects in 2006 to a projected 200 billion by 2020. What is often overlooked in discussions of Big Data is that an estimated 80 to 90% of the data in any organisation is to be found in 'unstructured data', text files, PDFs, presentations, web pages etc, and that this is growing faster than structured data. With a deluge of unstructured documents and diverse data to sift and analyse, researchers working on multidisciplinary public policy issues urgently need new digital research methods and integrated data solutions if they are to provide the evidence needed to have an impact on policy decisions and practices. To do this a comprehensive, multidisciplinary knowledge base is needed, along with intelligent online analytic infrastructure and cutting edge semantic knowledge systems. This will enable university researchers, as well those in government industry and civil society to analyse the wealth of information and explore the relationships and connections between diverse entities in a way that is not currently possible.

Partner organisations

Swinburne University of Technology, University of South Australia, RMIT University, University of Melbourne, Australian National University, University of NSW, and the Australia and New Zealand School of Government.

Chief investigators

Swinburne University: Professor Jane Farmer, Professor Peter Newton; Professor Penelope Schofield; Professor Peter Graham; Professor Timoleon Sellis;
RMIT University: Professor Julian Thomas; Professor Jago Dodson; Professor Mark Sanderson
UniSA: Professor Kerry London; Professor Ian Olver; Professor Maureen Dollard; Professor Susan Luckman;
University of Melbourne (AURIN): Professor Richard Sinnott
ANU (ADA): Dr Steven McEachern
UNSW: Associate Professor Catherine Bridge

Project team

Project manager: Amanda Lawrence, Director, APO
alawrence@apo.org.au

Technical lead: Camilo Jorquera, Senior Developer, APO
cjorquera@apo.org.au

Australian Government
Australian Research Council