

University of Auckland - Research Service Maturity Model

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Service delivery should add value to research activities, and ideally we should be able to capture or measure some of this value. The way we manage and measure services should be done with a view of the entire eResearch ecosystem in mind. Many measurement tools are designed with a single function, but we should aim for an approach that is organisational unit or service agnostic, and remove the complexities of boundaries, overlap or duplication across various providers.

Purpose of the maturity model

- Help service providers understand where they currently are
- Ascertain what the readiness is to provide new services
- Identify functions that need to be prioritised to improve effectiveness
- Potentially, to be used as a reference point to measure service improvement through time

We adapt the HWMD maturity model¹, and use the six dimensions of 'eResearch enabling functions' as top level categories to probe the current level of service maturity. We have opted for a lightweight description of only some key elements for each function in this project. The service maturity we attempt to capture is intended only as a first start - a full service maturity review is beyond the scope of this project.

The following serves as a guide for service providers to self-assess their current state and future priorities. Responses can be given a maturity 'score' from 1-5 or marked as NA². For each question, providers indicate the closest match to their current state and desired or target state.

1. *Ad-hoc* - procedures or processes are generally informal, incomplete, and inconsistently applied.
2. *Developing* - some procedures or policies exist, however they are not fully documented and do not cover all relevant aspects.
3. *Defined* - procedures and processes are fully documented and implemented, and cover all relevant aspects.
4. *Managed* - reviews are conducted to assess the effectiveness of the controls in place.
5. *Optimised* - regular review and feedback are used to ensure continuous improvement.

¹ Holewaa, Hamish, et al. (2015) "The HWMD maturity model: A foundational framework to measure effectiveness of institutional research e-infrastructures." Proceedings of the 2015 The Higher Education Technology Agenda Conference. THETA.

² These five levels are based on the [ANDS research data framework](#), which in turn use the usual [Carnegie Mellon Software Engineering Institute](#) CMM

Note: How we ask and describe the maturity levels will strongly influence the responses. This is not an objective evaluation. However it is still useful to get a current snapshot, start the process of opportunity identification, and clarify which are the 'right' questions we should be asking.

Governance and leadership

Concerns the executive and overarching ownership of the service within the institution.

- Is the service part of a roadmap or institutional strategy for key research infrastructure?
- Is there a sustainable institute level support model for key infrastructure?
- Is there institution wide workforce capability and capacity to support the service?
- Is there institutional leadership in collaboration relating to the service?

Research information management

Concerns the provision of services throughout the entire research and data lifecycles.

- What level of consultancy or training and guidance is offered around the use of the service?
- What level of legal or institutional compliance is the service at with respect to any relevant policies or guidelines?
- Are there data management policies or strategies in place concerning the use of the service?
- What is the current level of sustainability and continuity of the service?

Technological infrastructure

Concerns the applications, tools, and hardware related to the service.

- What level of technical infrastructure is currently in place to support the service?

Collaboration and community engagement

Concerns how effective mechanisms to engage with researchers, faculty, and the wider stakeholder community are.

- How is the service communicated and information disseminated?
- What is the level of understanding of the research communities needs?
- How much cross-organisational collaboration occurs in the provisioning of the service?
- To what degree does the service facilitate communities of practice?

Workforce education training and development

Concerns the availability of staff with the appropriate level of skills and knowledge to deliver the services.

- What is the availability of subject matter experts to front or provide the service?
- What professional development, education, or training is offered to service staff?

Service delivery and management

Concerns the operations and performance of service with a view to improvement.

- What level of metrics and reporting for the purpose of improving the service exist?
- What level of policy and processes are defined for the service?
- What is the level of service capability?
- What is the level of service capacity?

An aside...

We could also consider a 5 Star service model?

1. The service exists and information can be found on the Web.
2. The service has clear entitlements and description of what is available to the researcher.
3. The service is provisioned as 'self-service' or requests can be made simply online.
4. Guides or educational materials/workshops related to the service are provided.
5. There is long-term and institutional support for the service.