Introduction to the KRDS Benefits Analysis Toolkit

Overview

Background

Organisations in the Higher Education sector including the research councils and universities are facing increasing demands to demonstrate their effectiveness and significant return-on-investment of public funds. This is often expressed in terms of innovation and impact on the UK economy and society but extends to specific investments in digital curation and preservation of research data. Enhancing the ability to demonstrate benefits, value and impact in this context is paramount and this Toolkit is designed to support that requirement.

Development of the Toolkit has been funded by JISC as part of the "KRDS/I2S2 Digital Preservation Benefit Analysis Tools" Project. The project has tested, reviewed and developed further the Keeping Research Data Safe (KRDS) Benefits Framework and the KRDS/I2S2 Value Chain and Benefit Impact Analysis tools for assessing the benefits of digital curation/preservation of research data. It has also extended their utility and wider adoption by providing detailed user guidance and worked examples for the tools and creating an integrated Toolkit.
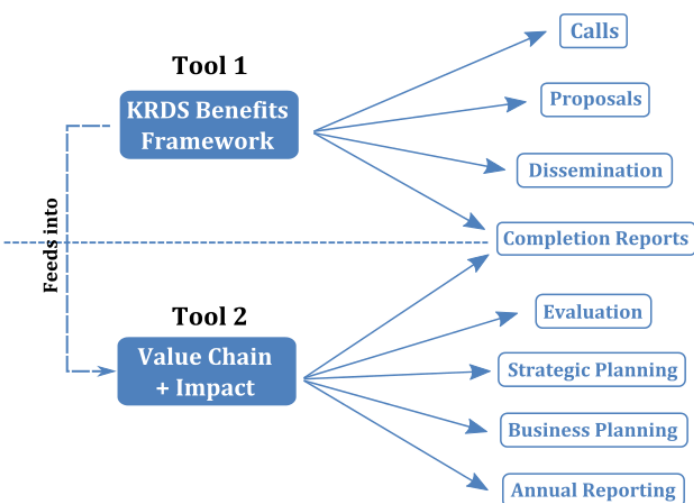
The components of the Toolkit

This leaflet provides an introduction to the Toolkit and its components. The Toolkit consists of two tools: the KRDS Benefits Framework; and the Value-chain and Benefits Impact tool. Each tool consists of a more detailed guide and worksheet(s). Both tools have drawn on partner case studies and previous work on benefits and impact for digital curation/preservation. This experience has provided a series of common examples of generic benefits that are employed in both tools for users to modify or add to as required.

The Toolkit and its components
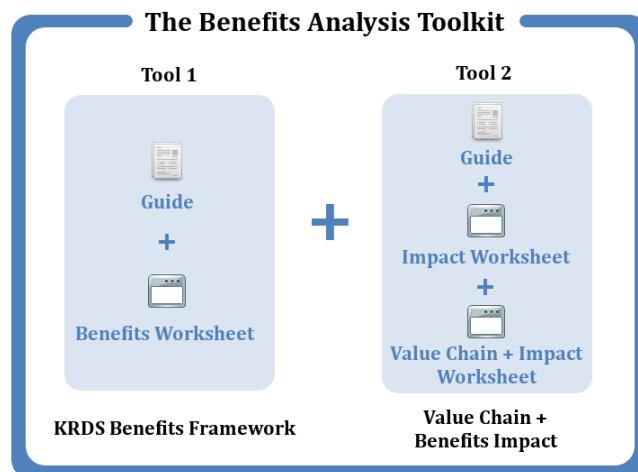
Potential uses for the Toolkit and its component tools

How can it be used?

The Toolkit is designed for use by a wide audience including funders, researchers and project staff, and personnel in university central services, data archives and repositories. Common activities which can utilise outputs from the different tools in the Toolkit are shown. The KRDS Benefits Framework (Tool 1) is the "entry-level" tool requiring less experience and effort to implement and can be used as a stand-alone tool in many tasks. It can also be the starting point and provide input to the use of the Value-chain and Impact analysis. The Value-chain and Benefits Impact analysis (Tool 2) is the most advanced tool in the Toolkit and requires more experience and effort to implement. It is likely to be most useful in a smaller sub-set of longer-term and intensive activities such as evaluation and strategic planning.

The KRDS Benefits Framework Tool

Purpose

The Keeping Research Data Safe (KRDS) Benefits Framework is a tool for identifying, assessing, and communicating the benefits from investing resources in the curation/long-term preservation of research data. The Framework is especially useful as a tool for supporting and organizing early-stage brainstorming on the benefits associated with a particular activity. The Framework will assist in identifying potential benefits from a project or activity, and articulating these benefits to a broad audience of stakeholders. It can also aid in customising the expression of these benefits to address different stakeholder audiences.

EXAMPLE:

Benefit: Fulfil research grant data management obligations.

Dimension 1 (Outcome): Direct
Dimension 2 (When): Near-term
Dimension 3 (Who Benefits): Internal

Explanation:

- The benefit is direct, in the sense that creating the capacity to fulfil funding agency requirements to preserve the data products from research projects represents a distinct, positive source of value.
- The benefit is primarily near-term, in the sense that it permits current researchers to fulfil the terms of their grant awards.
- The benefit is internal, in that it primarily extends to those with the appropriate affiliation/authorisation to deposit data into the repository.

Organisation

The Benefits Framework is summarised graphically in the figure below. The Framework organises benefits along three broad dimensions: the outcome achieved; when the outcome is achieved; and who benefits from the outcome. It helps identify the "what", "when" and "who" of the value proposition for these activities. Each of these dimensions can be subdivided into two categories: direct and indirect benefits, near-term and long-term benefits and internal and external benefits respectively. The dimensions are applicable to nearly all research data curation/preservation activities and can be used without modification in most contexts. Any benefit associated with a data curation/preservation activity can be characterised according to these three dimensions.
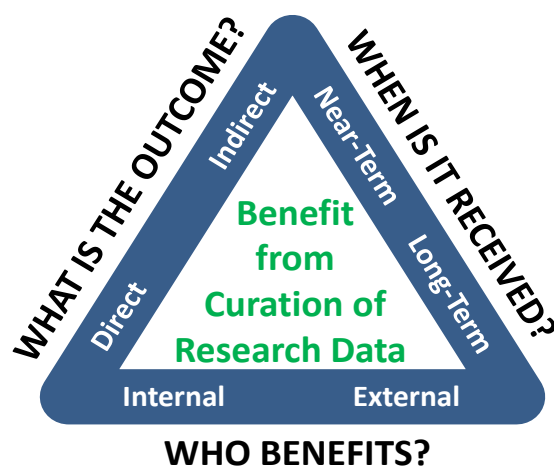
Anatomy of a benefit

The tool itself consists of a detailed guide and a worksheet. Application of the Framework to a range of projects has revealed a number of common benefits that frequently arise from the curation/preservation of research data. A list of examples of these "generic" benefits is provided in the Tool as a starting point for applying the Framework.

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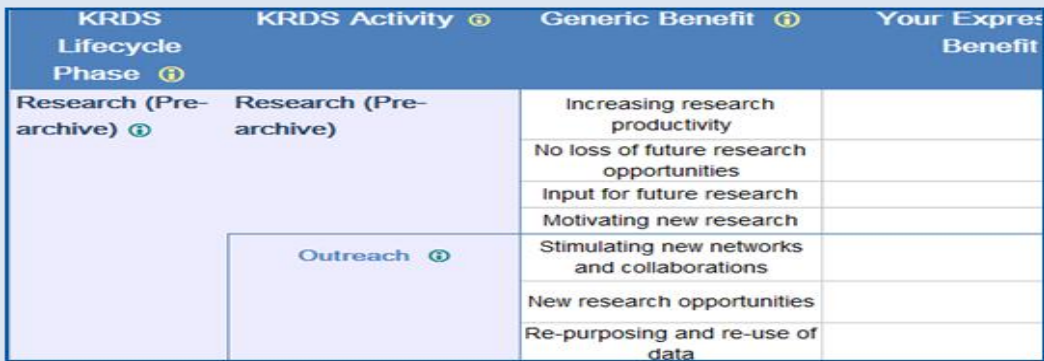## The Value Chain and Benefits Impact Tool

Purpose

This is the second and most advanced tool in the Toolkit. Once benefits are identified and organised within the Benefits Framework, further work can proceed aimed at identifying potential measures or illustrations of the value and impact of those benefits. This next stage is supported by the Value-Chain and Benefits Impact Tool. This can be used in assessing where value is added to outputs in a chain of activities and for use in evaluation, strategic and organisational planning, and reporting.

The Tool is intended help you to identify quantitative metrics and qualitative indicators for the impact of benefits and optionally to support a value-chain analysis. It uses the KRDS Activity Model as a starting point for the value-chain analysis, so it is better suited to the specific needs of research data and its curation/preservation.

Organisation

A detailed user guide and two worksheets have been provided with the Tool; the Benefits Impact worksheet and the Value-chain and Benefits Impact worksheet. An extract from the later is shown below. To use this Tool, you should first select which worksheet most closely matches your needs. Both worksheets have been pre-populated with a selection of common generic benefits also used in the Benefits Framework Tool but you may review, delete or add more to the selection. The tool has been designed to be generic but easily configurable by the user for their specific needs or application.

Extract from KRDS Value-chain and Benefits Impact Worksheet

We recommend that both worksheets in the Tool are used by a team with a senior member of staff or independent support (e.g. consultancy). For maximum effectiveness in applying the Tool, ideally at least one person in the team should be very familiar with the KRDS Benefits Framework (tool 1), other KRDS Outputs such as the KRDS Activity Model, and similar assessments of value and impact.

Demonstrating the impact of benefits for research data curation/preservation, either directly via metrics (quantitative impacts) or qualitatively via illustration in case studies (qualitative impacts), is still a relatively novel area. The guide provides discussion and further references to JISC and Research Councils' work on demonstrating impact. This can provide examples to assist working though how to demonstrate the impact of benefits and implement capturing the relevant measures/illustrations identified in completing the worksheets.

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The Combined Toolkit

Combining use of the Tools

The starting point for projects and organisations using the Toolkit will always be the Benefits Framework (Tool 1). Once benefits are identified and organised within the Benefits Framework, further work can proceed aimed at identifying potential measures or illustrations of the value of those benefits. Outcomes from using the Benefits Framework can be re-used in doing this. If desired you can also consider these benefits and impacts in a value-chain analysis. These stages are supported by worksheets in the Value-Chain and Benefit Impact Analysis (Tool 2).

There are several fields in common between the two tools. Each of the benefit dimensions in the Benefits Framework Worksheet (Tool 1) is represented by separate columns in the worksheets for the Value Chain and Benefits Impact (Tool 2) so it is possible to build on and re-use your previous work within the Toolkit as needed.

The combined Toolkit provides a very flexible set of tools, worksheets, and lists of examples of generic benefits and potential metrics. These are available for you to use in different combinations appropriate to your needs and level of expertise. Guides for each tool and case studies of completed examples of the worksheets (see the Benefits Analysis Tools Project web site) provide documentation and support for your implementation.

The Toolkit is available to download from the project web site and the KRDS web site (details below).

Benefit dimensions as they appear in Tool 1 & Tool 2

References

KRDS/I2S2 Digital Preservation Benefit Analysis Tools Project web site: http://beagrie.com/krds-i2s2.php

KRDS web site: http://www.beagrie.com/krds.php

JISC Research Data Management Infrastructure (RDMI) projects benefits case studies: http://www.jisc.ac.uk/whatwedo/programmes/mrd/outputs/benefit_studies

Acknowledgements