

THETA

The Higher Education Technology Agenda

Improving data management practices of researchers by using a behavioural framework

Context

The Australian Code for the Responsible Conduct of Research was developed in its current format by the National Health and Medical Research Council (NH&MRC), the Australian Research Council (ARC) and Universities Australia. It provides a guide to responsible research practice and covers a wide range of topics associated with research, including the management of research data and associated materials, and the publication and dissemination of research finding. The Code assigns both researchers and their parent institutions a shared responsibility to appropriately manage research data and primary materials. A key driver is the desire to enhance discoverability and re-use of data, i.e. “connecting” end-users as “consumers”.

In line with funding agencies in other countries such as the United Kingdom and the United States, as of 2014 the ARC requires funding applicants to outline their plans for the management of data produced through the proposed research. Another important trend is that of journals requesting data deposit to accompany journal article submission and, in some cases, to link the article with the underlying data. In both cases good research data management inherently underpins the ability of a researcher to provide the requisite data.

The Problem

Data management practices of researchers are coming under increasing scrutiny. However, as Jahnke et al (2012) have outlined in a recent report, the importance of good data management practice tends to be overshadowed by other demands. While attention seems to be focused on the end of the research cycle, i.e. the publishing phase, the challenge of improving data management practices covers the whole research cycle from grant inception to data capture/creation through to archiving. At the end of the project not all data collected

may need to be published but may still warrant preservation for re-use or to meet regulatory requirements.

It should not be assumed that researchers do not exercise good practice in managing their data – they may do so using a variety of readily available tools and technologies. The problem is how to bring about a change in behaviours of researchers to reassess their current practices and, if necessary, adopt new practices. In Australia and internationally there has been much discussion about how to improve engagement and support within the institutions. This paper will further that discussion by applying a different lens to the problem of data management from the researcher perspective and by using well-known models of behaviour and behavioural change.

Theories and models of behaviour and behaviour change

Theories and models of human behaviour are commonly applied throughout the social sciences. There have been attempts to extend these for broader use to isolate controlling factors and causes of behaviour, taking into account anthropological factors such as habit, ritual, politics and influencing factors of institutional structures (Morris et al, 2012). They have been applied widely (e.g. agriculture, recycling, community health) where intervention is required to bring about adoption of new practices and behaviours.

In regard to the adoption of research data management practices, the tendency to date has been to attribute researchers' non-compliance, or reluctance at best, to factors such as lack of time and / or resources, lack of recognition for undertaking such an initiative, lack of confidence as to how their data (if shared) may be used by others, and basic lack of awareness of the potential benefits. However as contemporary behavioural literature suggests, there are additional factors which should be considered so as to better understand any perceived "resistance to change".

While these theories and models of behaviour and behaviour change may be diverse and sometimes conflicting, they can provide some key insights that can help to promote sustainable behaviours. The authors will report on a brief literature review of some of the key theories and models (e.g. the Theory of Planned Behaviour and the Transtheoretical Model). They will also include a review on how these have been applied to other areas within a university, such as e-learning and resource efficiency, and then discuss their potential applicability to data management practice.

This paper will be of interest to those managers and executives tasked with improving data management practices of researchers. It will do this by looking at the problem from a researcher perspective rather than a service delivery point of view and by applying a different lens, using well-known theories and models. It is envisaged that this paper will have broader applicability to the introduction of new technologies and practices within a university.

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