Chapter 49
Research Data Access and Management in National Libraries

Enrique Wulff
Marine Sciences Institute of Andalusia (CSIC), Spain

ABSTRACT

National libraries have developed research data responsibilities for reasons of data ownership and cost-efficiency. Due to their multi-faceted and synergistic relationship with research data actors (publishers and researchers), their leadership in publication standards makes them a unique participant as advisors on research data archiving and citation, as much as for their discovery and licensing expertise. National libraries engage with the data community to raise awareness of the relevance of data management and so promote themselves as an essential place for data repositories and the researcher community. This chapter introduces a framework of five national libraries: the British Library, the Library of Congress, the National Library of Medicine, the German National Library of Science and Technology, and the German National Library of Medicine.

INTRODUCTION

This chapter provides an overall description of data access and management in a variety of national libraries, in search of key trends in research data management (Ray, 2014). Emerging facilities have a significant impact on library strategies, operations and services while trends like open access and research data management reveal new challenges (Collins, 2012). Based on major national libraries and institutional discussions, recommendations are proposed with respect to services to users, interoperability, enhancing discovery, improving interaction with research data national library labs and enhancing data quality. Libraries include the British Library, the Library of Congress, the National Library of Medicine, the German National Library of Science and Technology, and the German National Library of Medicine.

To best serve users and communities, research institutions rely on their academic libraries to provide persistent and secure access to, and management of, their research data (Ayris et al., 2013). A group of five national libraries (from Europe and the US) offering open research data are examined. These five national libraries have the customer base, already offer research data services and have the technical expertise required to manage research data. Their research data roles are determined by the decentralization of the web, distributed computing and storage, data analytics, artificial intelligence and knowledge graph infrastructures. Therefore, these national libraries are keen to be part of major developments in the research data area (Kruse & Thestrup, 2017).

The key to taking an intentional leadership role in the field will be achieving the necessary consensus to create and maintain an environment fostering trust, with the primary objective of recruiting and preparing librarians to purposefully enter the field and demonstrate to management that they are equipped to do the job. By selecting a network of actors and analyzing the systematic exchange of their strategic experiences, services, preservation, and lifelong education, library values are emphasized. In spite of the fact that technology is heavily involved in data management, there are also issues of selection and collection, curation, description, citation, and legislation. Under this premise, and taking into account the extent to which librarians, information technology professionals, and researchers come into this field as accidental data managers, whether this job is an information professional role rather than a technology position, poses a challenging question.

There is a need for guidelines to inform institutions about key trends in managing research data in library services, for unusual or complex tasks attached to the data life cycle. Planning for research data management, financed in whole or in part, from public funding, should be able to provide a framework to understand the stages of the data cycle and identify what services can be provided, to whom and at what stage of the cycle. National libraries cannot provide research data management services alone and it is essential to be proactive in working with the full range of stakeholders and interested parties. This chapter explores the relationships between data libraries and institutional data repositories. In this respect, knowledgeable librarians are essential and details are provided for issues relating to data management plans, guidelines for working with digital research data, quality control of digital data, data file management policies and standards, intellectual property management, metadata guidelines, ingest guidelines and other tools.

GOALS AND OBJECTIVES

To meet the theme of this book, this section aims to help practitioners understand the mix of scholarly and technological challenges that national libraries face while searching for a new cross-border research data infrastructure. In these national libraries the method of study is based on:

- The relationships between the library and the computer and data centre that may exist within the organizations which serve as its model;
- All the data policies and plans prepared at the organization to develop and exploit strategies for research data management.

This chapter relates what librarians need to know about managing research data and data management plans; the operational availability of multidisciplinary datasets will remain critical for the next generation

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