Research Data: Emerging Challenges and Opportunities in International Research Collaborations

*Kamata Takehito[1]

1. Sophia University

Researchers and professionals from different academic backgrounds share diverse types of information, knowledge, and data to study interconnected complex global issues. Their collaborations yield new knowledge that can create innovations around the world, and interdisciplinary teams of specialists work together to conduct flexible research collaborations in analyzing large amounts of data, information, and samples.

Research data governance policies regarding international research vary across academic disciplines, professions, and nations. Researchers, professionals, and all related stakeholders need to understand emerging challenges and opportunities in integrating research data with their collaborators across nations. This study introduces emerging challenges and opportunities in integrating data across nations.

Anderson (2010) identified the four dimensions of national research system, the organization of the research system, the legal and regulatory systems, the oversight related to research integrity, and the training of graduate students and postdoctoral fellows as potential challenges when promoting research and support in international research collaboration. Dealing with challenges at the appropriate organizational levels is key to pursuing successful international research collaboration.

There are many education and research systems around the world, and the affiliated systems influence researchers' engagement and involvement differently. In addition, each individual's academic, professional, and cultural experience determines and reflects the attitudes, behaviors, characteristics, objectives, and values of an organization or institution. It is crucial to recognize differences in trained individuals' knowledge, skills, research integrity and ethics, as well as other research-related training (National Research Council, 2011).

Different legal and regulatory systems pose challenges for international research collaboration. Some government agencies and international organizations have more complex hierarchies than others, and some nations are strict on spending their public funds in particular research fields. Recognizing differences among organizations, sectors, and nations will be significant to establish effective collaboration and communication platforms to deal with emerging challenges in international research collaborations.

The increase of data storage capacity and the development of information technology infrastructure have enabled researchers and professionals to integrate data and samples through international research collaborations. Although each academic discipline has different data sharing principles and practices, it is the shared responsibility among the stakeholders to improve data integration infrastructure in data management and governance in international research collaborations.

National funding agencies or oversight organizations do not have the clear authority and function to assess the various risks and threats associated with data sharing in international research collaboration. Elsevier started offering to store the research data that underlie the papers published in its journals;

however, it did not consider the cost of doing so (National Research Council, 2018). Researchers must work with their collaborators to recognize research integrity principles, understand government regulations, follow legal guidelines, spend allocated funds appropriately, satisfy other requirements, and ensure public trust in research (Kaye, 2015).

Incorporating multiple data integration perspectives and practices will be significant to eliminate potential challenges and create responsible research data governance policies in international research collaborations. Based on the definitions of internationalization, this study examines the organizational responsibilities and functions of the research data governance at the institutional, sector, national, and international levels.

Keywords: International research collaborations, Research data integration, Data governance