Chapter 3
The Transformative Role of Institutional Repositories in Academic Knowledge Management

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ABSTRACT

Institutional repositories (IRs) play a significant and transformative role in academic knowledge management (KM) focused on sharing, disseminating, reusing, and preserving knowledge. The contents of IRs span faculty research, Open Access (OA) publications, electronic theses and dissertations, graduate research projects, departmental reports, institutional records (with archival finding aids), operational and research data, and digital heritage collections. Academic KM extends KM in the academic environment and focuses on the creation, sharing, dissemination, and preservation of scholarly and operational knowledge. This chapter explores the role of IRs in academic KM through an analysis of knowledge architectures, knowledge activities, and digital curation. The analysis of the Digital Curation Centre's (DCC) content lifecycle model presents KM in the context of lifecycle actions and highlights the relationship of KM, IRs, and digital curation.

INTRODUCTION

By virtue of their association with archives and digital curation, institutional repositories (IRs) play a transformative role in academic knowledge management (KM). This role is vital to knowledge activities including the acquisition, creation, conversion, sharing, dissemination, transfer, preservation, and reuse of knowledge in higher education. Many KM practices and processes have roots in library practices predating IRs. These include archiving, reference, instruction, cataloging, indexing, and document delivery. Higher education currently relies on IRs to curate research data, information, and organizational knowledge spanning faculty research, Open Access (OA) publications, electronic theses

and dissertations, graduate research projects, departmental reports, institutional records (with archival finding aids), operational and research data, and digital heritage collections. IRs currently in use can significantly transform knowledge activities to enhance these contents to foster new knowledge, and IRs have already transformed core KM practices, types of contents, library job titles, and the range of technologies comprising knowledge architectures within institutional divisions and across geographical boundaries. IRs continue to play such a transformative role through digital curation and dissemination of knowledge in the changing landscape of scholarly communication, and sharing such knowledge within and beyond the parent institution.

This chapter focuses on the transformative role of IRs in KM practices of academic libraries with active archival and digital curation programs. The chapter treats academic KM as an extension of KM in the academic environment with a focus on aforementioned knowledge activities. It presents a framework for analyzing the transformative role for IRs in KM and aims to answer three research questions: 1) What is the scope of KM in the academic library?; 2) How can the use of IRs transform KM in the academic library?; 3) How does KM fit into the life cycle model for digital curation?

The premise of this chapter is that while KM has extensively utilized knowledge bases IRs have transformed KM by virtue of becoming essential tools in the long-term preservation of digital content and disseminating scholarly knowledge in a growing and interconnected OA environment. Following the literature review, the chapter focuses attention on the transformative role of IRs on KM. The contextual analysis first unfolds around the framework of staggered knowledge architectures with three critical components: people (e.g., archivists and librarians), content (i.e., digital content and metadata), and technology (i.e., hardware, platforms, and applications). Next, it will cover new roles and expectations for librarians followed by discussion of the data-to-wisdom cycle, knowledge conversion, and transfer. Lastly, the chapter will focus on the Digital Curation Centre's (DCC) content lifecycle model and the relationship of IRs and KM in the context of various lifecycle actions in this model. Although a quantitative study measuring the effect of IRs on KM in academic libraries is beyond the scope of this chapter, it is fair to expect unique results due to the uniqueness of archives, special collections, and associated digital practices.

BACKGROUND

Philosophical thought on knowledge dates back to Ancient Greece, India, China, and other civilizations contributing to epistemology, ontology, and metaphysics. The focus on knowledge in such fields as psychology, education, library and information science, business administration, economics, computer sciences, and emerging interdisciplinary fields has become the basis for KM literature in the 1990s with focus on knowledge activities and processes in the commercial sector. Nonaka and Takeuchi (1995) have traced this development from Plato to Drucker and other contemporary authors: from knowledge as "justified true belief" (p. 21) to organizational learning theory of Argyris and Schön in the late 1970s (as cited in Nonaka & Takeuchi, 1995) and the theory for knowledge creation (Nonaka & Takeuchi, 1995). Nonaka and Takeuchi (1995) credited Peter Drucker for coining the term "knowledge society [wherein] knowledge is not just another resource alongside the traditional factors of production—labor, capital, and land—but the only meaningful resource today" (p. 7). Over several millennia since ancient Greek philosophers, knowledge has become more tangible and quantifiable to measure the productivity

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