Skills Required to be an Effective Manager of Electronic Records
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A conclusion we derived from experience on the 1st NHPRC project from 1995-1997, a conclusion arrived at by other archivists involved in electronic records management, was that the archival profession needed to add some new skills to its “tool kit” in order to be effective in the world of automated records. Skills we emphasized at that time were a basic knowledge of how automated systems are created and work; a more detailed knowledge of data administration methodology; experience with functional analysis methodology and data modeling; and knowledge of computer based information systems, particularly metadata systems, such as data dictionaries and information resource dictionary systems. We further stated that the goal was not be become a programmer or systems analyst, but rather an archivist who could speak the language of the technologist and was able to perform some basic tasks related to modeling and describing data.

To expand on this point a bit, archivists are beginning to recognize that some of the skills needed for managing electronic records are in fact the same skills required for non-electronic records as well. Increasingly, archivists are recognizing that functional analysis and the delineation of business processes are the most useful and viable means of identifying records, whether they be electronic or paper. Similarly, in the appraisal process, archivists are concluding that functional appraisal methodology is likely the best strategy for all types of records.

In phase II of the IU Project, I experienced nothing that would cause me to change my views on the skills outlined in the phase 1. However, I have been able to refine and further define my response to the question of what skills are required to manage electronic records. In the process I have added more definition to the list of specific skills required and further refined my response to the questions: How much specialization is needed? How do you determine when you have acquired enough information to do your job? At what point do you hand the ball off to partners for them to do their thing?

In addressing these questions, I would first say that I agree with Margaret Hedstrom when she writes that "the challenge is to strike a balance between teaching known methods and techniques- built around traditional archival functions- and teaching archivists how to evaluate, apply, and modify theory to address the changing needs of advanced technology." ¹ In other words, to be a good manager of electronic records, a solid grounding in basic archival principles and techniques is essential. Beyond that, experience has demonstrated that new and different managerial and technical skills are required to be successful in the world of automated records.

I would group the new skill sets that I have found most important into three basic
categories. The first is obtaining basic knowledge of automated systems and how they
process data and information. Of particular importance is acquiring a good working
knowledge of the most prevalent systems presently being employed in most institutions:
On-Line Transaction Processing systems (OLTP), Database Management Systems
(DBMS), Management Information Systems (MIS), Decision Support System (DSS) and
Data Warehouses, and Electronic Document Management Systems (EDMS). Before
archivists can begin designing recordkeeping systems, they must first be able to articulate
why a OLTP system or EDMS is or is not meeting the requirements of a recordkeeping
system. This is perhaps the most important lesson I learned in phase 2 of the IU Project.
During all of phase 1 and for much of phase 2, I was focused primarily on defining
recordkeeping requirements and on modeling business processes. Of course, gaining this
knowledge is critical, but it is only half the picture. We need to know what
recordkeeping requirements to recommend, but equally important is our response to the
questions – How does this OLTP system fare as a recordkeeping system? Does this
electronic document management system (EDMS) or decision support system (DSS)
offer a viable substitute for a recordkeeping system? To respond to these questions, I
have devoted far more time and effort than I did in phase I to reviewing and
understanding how information and data systems process and manage data and
information, with an eye to understanding them in terms of the recordkeeping
requirements.

In addition, one must also obtain a thorough understanding of all the various metadata
systems, such as data dictionaries, information resource dictionary systems, and, perhaps
most importantly, audit trail logs. In phase II of the IU Project, I have devoted a great
deal of time to understanding the concept of audit trails and what types of audit
information is typically collected by information systems.

A second basic set of skills that I have found essential are information system analysis
and design skills. I emphasized this skill in phase I, and I still think it is absolutely
critical. In my mind, one of the most important and profound changes in the
archival/records management profession will be the creation of an overall strategy that
views conceptual model building as the primary methodology for dealing with many
or most of the issues the profession faces in attempting to manage records in automated
environments. In other words, rather than physically reviewing records and systems to
conduct such basic activities as appraisal and description, records professionals will be
creating and employing conceptual models designed to analyze and document record
systems. Using this approach the equivalent of a traditional records survey would be the
creation of business process models, i.e., conceptual models of functions and transactions
that identify business records. Appraisal of records would be still be undertaken by
employing traditional appraisal values, but the analysis would be based on conceptual
models of the processes and records rather than on a physical review of data content.
Evidential values would be derived from business process and metadata models, and
informational values from reviewing data and metadata models. In documenting records,
a complete, authentic and reliable record would be captured not by physically reviewing
the record but by analyzing metadata and data models and by comparing the results to an
established set of metadata specifications and recordkeeping requirements. In sum, my vision of a records management methodology for the future places a great deal of emphasis on our ability to create and use conceptual models in the analysis of information systems as recordkeeping systems. In my mind, we will only succeed in meeting our records management objectives if we transform our method of review and analysis from a methodology based on the examination of physical records to one that is focused on the analysis of conceptual models.

The third skill set I would emphasize is obtaining the management skills required to translate this knowledge into a strategic plan. This is a set of skills I had to learn and refine throughout phases 1 and II of the IU Projects. In large part this was a consequence of responding to changes occurring within the IU information management environment, which in turn had dramatic impact on my project goals and timetable. Throughout the project, I was constantly devising new strategies and management plans designed to move the recordkeeping agenda forward. Examples of this were finding creative ways to promote a partnership with IU Internal Audit, and to gain acceptance for the inclusion of recordkeeping functionality in the EDEN Workflow infrastructure. More than ever before, records professionals must be effective managers who can translate a set of goals and objectives into a realistic and effective implementation project. More specifically, we must learn effective techniques for communicating archival needs, capabilities and contributions. We must develop strategies for positioning the archives/record management program within the broader context of information resources management. We must learn how to define mutually beneficial activities, and how to negotiate “win/win” alliances.

Finally, I would like to comment briefly on how to maintain the proper perspective or balance in the acquisition of new skills. In regard to the hand-off point, I always keep in mind that the goal is to manage and preserve records. I am not in the business of managing data, information, knowledge or documents; I am the voice for managing records and recordkeeping systems. Keeping one’s eyes on records management issues will help one stayed focused on the basic skills required. In my mind, the goal is not be become a programmer, systems analyst or decision support specialist, but rather an archivist/records manager who can speak the language of the technologist, understands how various data and information systems function, and is able perform some basic tasks related to modeling and describing business processes.

To better illustrate what this level of knowledge means in reality, I believe the archivist/records manager working with automated systems needs to become thoroughly familiar with the knowledge and skills taught in the following courses in the IU School of Library and Information Science, Master in Information Science Program: Organization and Representation of Knowledge and Information, The Management of Information Environments, Foundations of Information Architecture, Systems Analysis and Design, Organizational Informatics, Information Architecture for the Web, Communication in Electronic Environments, Design of Information Systems, Indexing Theory and Practice, Information Storage and Retrieval Theory, and Evaluation of Information Systems. Most of these courses focus on an understanding of how information and knowledge-based
systems are designed and how they work. To me this is the critical knowledge archivists must add to their “tool kit.”