

Section I.

Conference Report

Electronic Records Program Strategies: An Assessment

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On April 22, 1993, the Society of American Archivists' Committee on Automated Records and Techniques (CART) and the National Association of Government Archives and Records Administrators' Committee on Information Technology (CIT) convened a joint meeting to share experiences and discuss success factors and barriers to the development of electronic records programs. Representatives from electronic records programs in the national governments of the United States and Canada, several states, colleges and universities, and two international organizations prepared background papers for the meeting. This essay draws together themes from the joint meeting and presents the author's assessment of the current state of electronic records program development in North America. Many of the papers which follow are expanded versions of background papers prepared for that meeting to describe the current status of electronic records programs and outline critical success factors from the perspectives of their managers or chief architects.

Participants in the joint meeting summarized the status of their programs, described the success factors, and discussed barriers that they encountered while developing policies, systems, and practices to support the archival management of electronic records. Through a discussion, facilitated by CART co-chair Richard Kesner, the group prepared a comprehensive list of success factors, institutional issues, and barriers that might impede progress or serve as catalysts for addressing electronic records issues in archives. Four small groups further dissected these issues and discussed whether the purpose, design, policies, and implementation of archival programs warranted a thorough reexamination and rethinking in light of the challenges posed by electronic records and the only modest progress to date. The small groups also developed lists of recommended actions that might advance the archival management of electronic records. Although no final consensus was achieved on the best approaches for archival management of electronic records, most participants agreed that archivists need to be open to "radical thinking" about the role of archives because successfully dealing with electronic records may demand a transformation of the basic purpose of archives and the methods archivists use.

Current Status of Electronic Records Programs in Archives:

Current electronic records programs in the United States and Canada present a mosaic of approaches and methods. The programs discussed at the joint meeting illustrate the wide variation in age and maturity, organizational setting, and the strategies and approaches used. Each program serves different and diverse customers, leading one to question whether there are enough shared assumptions about the purpose of electronic records programs to use the breadth and depth of experience as a basis for reaching conclusions about effective strategies and approaches. The oldest data archives program in the United States, the Inter-University Consortium for Political and Social Research (ICPSR), was established in 1962, and served as a model for many machine-readable records programs established during the 1960's and 1970's. ICPSR is a repository and redistribution center,

primarily for numeric data that supports social science research.¹ The newer programs, such as those at the State Historical Society of Wisconsin and the United Nations, are pursuing strategies ranging from participation in inter-agency or organization-wide policy committees to development of archival functional requirements for automated systems.

The organizational placement of electronic records programs varies as do the strategies used. Programs that are attached to traditional archives use several different approaches for organizing the archival function for electronic records. The National Archives and Records Administration centralizes appraisal and custodial responsibilities in its Center for Electronic Records. In addition, NARA's Agency Services Division provides training on electronic records management to Federal records managers, analyzes record keeping practices of agencies, and publishes guidelines and instructional materials; and the Appraisal Division reviews records schedules and coordinates appraisal review of electronic records with the Center for Electronic Records. The National Archives of Canada had a centralized custodial function for electronic records until the mid-1980s; but this approach was abandoned in favor of integration of electronic records into all archival functions, and it receives a critical assessment in the background paper by Terry Cook and Eldon Frost. The Kentucky Department for Libraries and Archives and the New York State Archives and Records Administration also have modest-sized units that focus on electronic records, but these serve more as centers of innovation and technical expertise to support a parallel goal of integrating electronic records into all records management and archival functions.

Regardless of organizational placement, involvement with electronic records appears to forge closer ties between archival programs, records management, and information policy and planning. Most state government programs and the program at the United Nations Headquarters are trying to influence government and organizational information policy by reaching out to policy and coordinating bodies beyond the confines of the archives. Other initiatives focus on information systems standards and design, internal business processes, and functional requirements, including the electronic records management program at the World Bank, the document management projects at the National Archives of Canada, and a project at the University of Pittsburgh to define functional requirements for record keeping. These strategies inevitably involve archivists earlier in the records life cycle which can lead to a reassessment of the relationship between the records management and archival functions.

The wide range of "customers" for electronic records programs in archives and differences among archival programs in their view and definition of their customers is another striking factor. Customers for the ICPSR, for example, are 370 member institutions -- mostly colleges and universities -- and their faculty and students in the social sciences. The World Bank, on the other end of the continuum, concentrates on serving the organization's busi-

1 A background paper, prepared by Carolyn Geda, was discussed at the Joint Meeting, but was not available for this publication

ness needs and the needs of individual, group, work unit, and enterprise-wide activities that rely on records and archives. Some programs are serving a multiplicity of customers ranging from government officials, to academic researchers, to members of the general public. The extent to which archives have adequately defined their customers and the need to redefine them in the electronic environment was a recurring theme in the discussions of success factors and barriers.

Different perceptions of customers, varying placement in the organizational structure, and the time period when organizations got into the electronic records business may account for the variety of approaches and methods employed in archives to deal with electronic records. The ICPSR and NARA use custodial methods and approaches which evolved from the data archives model. These programs stress the need for more efficient methods and application of advanced technology to tackle the growing volumes of data that they have chosen by program design to accession and distribute. NARA, for example, has developed a system called AERIC which includes an automated validation process for accessioning. Several programs have employed traditional archival and records management methods to control electronic records, such as use of the records inventory and retention scheduling, only to find them ineffective for identifying archival records and ensuring continuing access to valuable records. Most programs are searching for more effective ways to achieve archival ends. Several institutions have also pursued a policy approach, including the United Nations and the State of Kentucky, with modest success. Finally, organizations or programs that are most concerned with the role of records for supporting business processes and providing an institutional memory are developing functional requirements that might influence policy, standards, tools, and practices so that technologies and systems produce records that meet record keeping requirements and satisfy the archival needs of institutions and individuals.

With all of this variety, what are the common threads that tie together these electronic records programs? First and foremost, there is a shared sense that electronic records have launched archivists on an uncharted journey which compels a rethinking of basic assumptions about the purpose of archives and the methods used to accomplish that purpose. Development of effective approaches to electronic records issues requires a willingness to abandon old methods that are not working and to experiment and innovate. Customers often serve as a critical catalyst by demanding new services, reminding archivists that their message and services must change if they are to provide relevant and useful services, and by raising the expectations and standards for archival programs. Finally, it is apparent that we live in a world of dynamic change in information technology. What is less apparent, and perhaps less widely accepted, is the critical need for archival programs to understand and use this technology effectively in order to build and sustain credible programs.

Barriers to Success:

In discussing the barriers to success, participants portrayed a vicious cycle which can be characterized as a series of assumptions, perceptions, and actions that fail to advance effective responses to electronic records by archives. Repeatedly, participants described a syndrome where the role and significance of archives was not appreciated, which in turn undermined the ability to gain high-level support or sufficient resources for archival programs, which in turn made it difficult for archival programs to expand or develop new services that might increase the visibility, recognition and appreciation for archives. The methods that archivists use contribute to this predicament and can be changed by "rethinking" archives, as David Bearman and I explore in the essay in this volume on reinventing archives. Archivists have succumbed to the tyranny of obsolete methods, including reliance on the inventory and retention schedule as the primary tools for identifying archival records, assuming compliance with regulations through the review of paperwork rather than focusing on measures for desirable outcomes, and attempting to carry out all archival activities in archives and by archivists rather than providing others with tools to promote effective stewardship of records. The barriers to success include a mixture of attitudes and perceptions that are shaped in part by the strategies that archivists pursue and that archivists alone can change, as well as structural, legal and policy obstacles where change will require participation by archivists in broad-based coalitions and pressure from stakeholders beyond the archival community.

A constellation of closely related attitudes may undermine the ability of archivists to deal effectively with electronic records and may reinforce the perceptions of others that archivists are concerned primarily with paper records and hence have little of value to offer to information systems specialists, program managers, auditors, agency executives and others who indeed are concerned with fundamental archival issues such as preserving institutional memory, limiting risks of exposure to unfavorable audits or legal actions, and reducing costs through alignment of record keeping systems with business processes. Even though all of these concerns are within the purview of records management and archives, archivists rarely have expressed their role as one that encompasses these critical issues from a perspective that is shared by executives, managers, auditors, or information systems specialists. Fear of change, aversion to risk, a custodial mentality, and a failure to recognize electronic records as critical to the future success of archives create formidable barriers to success and may undermine the implementation of successful strategies by reinforcing a view of archivists as "keepers" and "doers."

Insufficient resources was a recurring theme, but the mix of resources needed clearly differs from the standard archival refrain of more staff, space, supplies and equipment. Instead, archival administrators lack power and influence, and archival programs lack access to technology and technical expertise sufficient to craft an effective response to electronic records. Constant change in technology, the complexity of modern information systems, and the absence of a common vocabulary to support communication between archivists and technical experts exacerbates the challenges for archival programs to remain in touch with contemporary technology and respond to the problems it spawns for customers and stakeholders. Gaining access to technology and technical skills and using them effectively to

achieve archival ends -- rather than to "automate" current practices and methods -- is one key to success.

Electronic records archivists recognize that the nature of organizational and personal information has changed dramatically with the introduction of local and wide area networks, powerful desktop work stations, electronic mail, groupware, and a myriad advanced information technologies. As Richard Kesner reminded me in his comments on an earlier draft of this essay, what remains in paper may be the ephemera with the significant decision-support and administrative documents residing in electronic form. Archivists must recognize that the popular association of archives with older records and paper documents could be translated into a contemporary association with the marginal, meaningless, and ephemeral output of automated paper-producing mills. Archivists can overcome this image through active involvement in the process of defining record keeping requirements when business process are being redesigned and reengineered -- increasingly with the explicit intention to eliminate paper documents entirely. But getting involved will mean many new and revolutionary things for archivists, including changing the types of alliances that archivists build with related professionals and assuming fundamentally different roles within their institutions.

Legal and structural factors may also inhibit or impede progress toward more effective approaches to electronic records. In some organizations, electronic records are still not viewed as records. Many archival programs lack sufficient jurisdiction and authority to deal effectively with electronic records, especially where archivists need to intervene to ensure that adequate records are created or captured. Lack of a policy framework and fragmented authority for records, archives, information systems, privacy, access, and similar information management concerns may limit the influence of the archives and its ability to leverage popular concerns to achieve archival ends. Insufficient information technology standards and ineffective enforcement mechanisms for useful standards are additional structural barriers to progress. Some programs, such as that at the United Nations, have succeeded in establishing a policy framework that has the potential to extend the authority of the archival program and clarify responsibility and accountability. As Liisa Fagerlund, reporting on the progress at the U.N. reminded us, however, the question of implementation remains.

Institutional Issues

Participants in the joint meeting also identified institutional characteristics that can serve as barriers or success factors and that vary across institutional settings and organizational types. Awareness of these characteristics may help archivists fashion strategies and programs that harmonize with organizational culture or take advantage of organization assets. Several critical factors fall under the rubric of the culture of the parent organization. An organizational culture that is open to change and that encourages information sharing and access may also encourage continuing access to electronic records. Pressure from the public or particular interest groups to gain or improve access to information resources can be channelled into support for archival objectives. Organizations with a high degree of enthusiasm about information technology may be more receptive to the need to capture and

maintain adequate electronic records than those organizations that either are relative newcomers to the information age or that view information technology as an inevitable evil. The converse may also present archivists with opportunities to promote creation, maintenance, and access to electronic records. Organizations with a high degree of risk sensitivity, an aversion to change, and apprehension about losing control over their records may be especially receptive to the need to build information systems that meet record keeping and archival requirements. Regardless of the organizational culture, archivists must be sensitive to the need to develop approaches and strategies that conform to or exploit the prevailing organizational culture rather than imposing a pre-ordained framework on an organization.

Archival programs must learn to deal with a widely varying landscape in terms of structure, infrastructure, and administrative context. Several participants viewed the independence of departments and divisions or the autonomy of agencies from a central authority and from the archival authority, as a barrier to progress. Further consideration of organizational and cultural issues suggests, however, that autonomy and independence under the right circumstances could be used to encourage innovation and creativity that might be difficult in highly centralized and hierarchical structures. On the other hand, enterprise-wide information resource management, an organization-wide, high-capacity technology infrastructure, and integrated business processes raise the visibility of electronic records management issues and elevate the level at which they must be addressed in organizations. If archivists are prepared to contribute to the policies, strategies, and systems that organizations would like to employ to manage their electronic records in such an integrated environment, then they have gone a long way toward breaking away from the tyranny of traditional methods.

Success Factors: Breaking the Cycle of Irrelevance and Ineffectiveness

The accumulated experience of the participants provided a reservoir of ideas and tactics that have contributed to the modest progress to date, while discussion at the joint meeting generated new ideas that warrant exploring. Openness to "radical thinking" and a willingness to reconsider the basic mission, role, and methods used in archives is a critical factor in shaping effective responses to the problems electronic records pose for archives. Participants generally agreed that archivists must be willing to question and challenge methods and concepts that we are in the habit of using and to abandon methods that don't work. One group recommended, for example, that the archival profession should not start any more electronic records programs without a clear understanding of their purpose. Developing effective programs or strategies calls for a cycle of experimentation and innovation, testing new approaches, and then implementing those aspects that seem effective. Yet archivists should avoid becoming attached to a model or a formula, because the state of the technological evolution and the nascent response by archivists do not yet permit conclusive answers. Moreover, archivists will be more effective if they focus on opportunities, rather than barriers, and if they become more cognizant of opportunities that surround them.

One participant recommended several places where archivists might scout out opportunities. If there is a business functional analysis underway, make a case for archival participation. If software selection for a Local Area Network is underway, participate in selection of document management systems software and exert influence to ensure that it can fulfill archival requirements. Determine the needs of experienced electronic records creators, such as guidelines for document naming, policies and methods for purging documents, and other document management needs, and contribute useful advice. Find the pet peeves of influential managers (inability to locate documents on a LAN, too much paper, inaccessibility of data for an audit, etc.), and pose electronic records management systems as a solution. The purpose of focusing on opportunities is to exploit the resources available in the environment and to be flexible, rather than trying to impose a universal, and all too often, inappropriate solution on every organization.

One way to find and cultivate opportunities is to define or redefine the "customers" for archival services. At the outset, archives should consider whether the multiplicity of customers and users creates conflicting demands or interferes with the ability to meet the expectations of any customers effectively. One strategy for moving forward in the electronic records arena is to link the purpose and goals of archives with the felt needs of customers, building on such areas of concern as access, privacy protection, risk reduction, opportunity gain, or cost savings. This might be done by communicating our understanding of the problems of electronic records to customers, listening to their articulation of the problem, and then developing approaches and methods that align the perceptions and needs of archivists with those of their customers. While this strategy requires archivists to define problems in terms that their customers understand, it also has the potential to identify others who have reasons to achieve the ends that archivists want, and to help them accomplish their goals.

Environmental factors that contribute to the failure of electronic records programs warrant careful analysis to identify critical pressure points in law and economics that could be changed. One participant recommend review of the Federal rules and the uniform code of evidence to make keeping of electronic records more critical for all organizations. Archivists should seek a high profile for issues that involve tampering with electronic evidence. Another strategy is to develop common data management practices for freedom of information, privacy, security, and disaster recovery and to capitalize on public anxiety around these issues to encourage better management of electronic records by organizations.

Indicative of any new initiative or change in direction, success with electronic records requires top management support and adequate resources. Joining in partnerships with other organizations, as the Kentucky Department of Library and Archives did by building alliances with the Information Systems Commission and the Department of Information Systems, appears to yield benefits of visibility and access to technical expertise. Archivists can gain exposure to technical expertise by contributing to systems development efforts that have been initiated to improve business processes or to address critical organizational needs. Just as significant as gaining critical resources is a strategy of realigning resources with the archives' espoused goals and objectives for dealing with electronic records. Archivists from Kentucky, New York, and Wisconsin all noted that conscious decisions to direct resources

toward electronic records work, despite lingering backlogs or even cutbacks in other programs, sent a decisive message about priorities that affirmed the importance of electronic records.

Archivists need to experiment with and develop new methods that help achieve archival objectives and to share effective methods with colleagues. Effective methods must utilize current technology and fit into an organization's technological and business environment. Participants at the joint meeting described some effective methods, including participation in design of organization-wide systems, developing a high-level understanding of organizational functions and business processes, and demonstrating to information technology staff that systems which meet archival requirements are robust, supportable, and maintainable. Developing functional requirements, communicating them to software developers, and then certifying or requiring products that meet those requirements were viewed as potentially powerful approaches.

What began as a meeting to convene experienced electronic records archivists in order to refine models and strategies for electronic records programs concluded with a recognition that every archives must craft a program and approach that is appropriate for the business needs and culture of the institution and customers it serves. Organizations need records that are both meaningful and secure, even though they express these needs and achieve these ends using widely varying approaches. Ultimately, archivists can help organizations create and maintain adequate documentation by adding value to the processes by which records are administered. This may include monitoring records creation and maintenance to enhance accountability, disseminating information about records through locator systems, developing advanced and user-friendly access systems, offering expert judgments on authenticity of records, advising on system design considerations to ensure continuing access to records, and a host of other new roles and services. While the fundamental purposes among archives might be the same, archivists will fail if we attempt to impose model solutions without understanding organizational needs and what we can contribute. At the end of the meeting, we agreed that a shared vision of the purpose of archives was much more critical than a shared road map to an unidentified destination. But our shared vision will not be meaningful, unless it is a vision that stakeholders in archival programs and customers for our services build and share with us.

Participants in the 1993 Mid-Year Joint Meeting of the Committee on Automation Records and Techniques of the Society of American Archivists and the Committee of Information Technology of the National Association of Government Archives and Records Administration

- Margaret O. Adams, U.S. National Archives
- Rick Barry, World Bank
- David Bearman, Archives & Museum Informatics
- Thomas E. Brown, U.S. National Archives
- Kevin Crawford, College of Physicians of Philadelphia
- Luciana Duranti, The University of British Columbia
- Fynnette Eaton, U.S. National Archives
- Liisa Fagerlund, Archives and Records Management Section, United Nations
- Meyer Fishbeim, retired
- Carolyn Geda, Inter-University Consortium for Political and Social Research
- Dennis Hallerman, Virginia State Library and Archives
- Dick Harrington, Virginia State Library and Archives
- Margaret Hedstrom, New York State Archives and Records Administration
- Richard M. Kesner, Babson College
- Howard Lowell, Delaware Bureau of Archives and Records Management
- Nancy McGovern, U.S. National Archives
- Tom Mills, New York State Archives and Records Administration
- Richard F. Myers, U.S. National Archives
- Harry F. Parker, Penn State Archives
- Tom Ruller, New York State Archives and Records Administration
- Steven J. Russ, U.S. National Archives
- Deborah Skaggs, Alabama Department of Archives and History
- Clive Smith, World Bank
- Lee Stout, Penn State University Archives
- Lisa Weber, U.S. National Archives