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This paper investigated the relevance of intrinsic value to electronic records. In conjunction with other appraisal methods, intrinsic value is useful in determining which documents require long-term preservation in their original formats. A pilot study consisting of interviews with archivists/records professionals was conducted by telephone with nine state archives/records agencies. This study, combined with a literature review, demonstrates that although state records managers and archivists do not presently use intrinsic value during appraisal of electronic records, its application could reduce costs, protect historically valuable information and lessen the potential for legal action relating to permanent, born-digital collections.

Headings:

- Appraisal of archival materials

- Electronic records

- Digital preservation

- Archival materials -- selection for preservation

BORN DIGITAL? APPRAISE TRADITIONAL!: A PILOT STUDY ON INTRINSIC
VALUE AND ELECTRONIC RECORDS OF STATE GOVERNMENT.

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Introduction

In his 1993 guide to appraisal, F. Gerald Ham states, “The intrinsic value of a record is seldom included in a list of appraisal criteria, but it should be.”¹ Endorsed as an important concept in assessing the value of an original physical form, intrinsic value has drawn only minimal attention recently as born-digital information introduced complexities seemingly beyond its design. As the amount of born-digital information entering archives continues to grow, archivists and theorists are re-exploring fundamental and long-standing practices to better manage these challenging, non-traditional materials. In an unusual circumstance, the electronic record that recently threatened to remove intrinsic value from archival practice might actually rescue it from obscurity. Through examination of recent writings on the nature and appraisal of electronic records and combined with a pilot study by the author, this paper will demonstrate that intrinsic value is a practical appraisal criteria for electronically produced information. Applied judiciously, it could reduce costs, protect historically valuable information and lessen the potential for legal action relating to permanent, born-digital collections.

As defined, intrinsic value, “is the archival term applied to permanently valuable records that have qualities and characteristics that make the records in their original physical form the only acceptable form for preservation.”² Considering the intrinsic

¹F. Gerald Ham, *Selecting and Appraising Archives and Manuscripts*, (Chicago: Society of American Archivists, 1993), 61.

²National Archives Records Service, *Intrinsic Value In Archival Material*, Staff information paper number 21(Washington D.C., 1982), no page numbers, web version.

value of digital records requires exploration of the nature of digital information as well as how archivists use appraisal to determine the value of electronic records. On a macro-level, there is the connection of the documents to their creation and use. Similar to evidential value, this includes the potential for a record to document important people and events. The primary difference between evidential and intrinsic value occurs when evidence is best preserved in its original format.³ On a micro-level is consideration of how an electronic document is formed and what constitutes the crucial components that make it an “original” document. Exploring the application of intrinsic value to electronic records presents several challenges including the lack of experience archivists have working with born digital records; the professional divisions over best practices for appraisal; and our limited understanding of the nature of digital information.

This paper is divided into two parts. The first part is a review of the theory and historical application behind the intrinsic value concept as found in archival literature. The second part relates the information collected from a series of interviews with archivists/record managers at state archives and record agencies. These interviews were conducted in an attempt to determine if intrinsic value decisions are presently being made for electronic holdings and, if so, at what stage. Another motivation comes from an

<www.archives.gov/research_room/alic/reference_desk/archives_resources/archival_material_intrinsic_value.html>

³Lewis J. Bellardo and Lynn Lady Bellardo, *A Glossary for Archivists, Manuscript Curators and Record Managers* (Chicago: The Society of American Archivists, 1992), 13, 19. Several types of value are regularly cited during appraisal and include the administrative, legal, fiscal, evidential, informational and intrinsic value of a record. These decisions are strongly influenced by a particular record or group of records use either before or after it is archived. For example, evidential value is applied when a record “[illuminates] the nature and work of their creator by providing evidence of the creator’s, origins, functions and activities.” Administrative, fiscal and legal values are applied when a record might be useful in conducting current or future business activities. Informational value refers primarily to the historical use of a record “for reference and research deriving from the information they contain on persons, places, subjects, etc.” Of this group, only intrinsic value detours slightly from a focus on use only. Intrinsic value, as defined, differs in that it considers the “inherent worth” of a document including the physical characteristics, content, circumstances of creation, and use.

interest in how archivists/record managers decide on the intrinsic elements of an electronic document in order for it to remain viable for research in the future.

History of Intrinsic Value

Over the last fifteen years, burgeoning populations of electronic documents have ignited debate over the applicability of widely used archival methods.⁴ Occupying a significant place within archival practice, appraisal serves as one of the major points of contention in the dispute between those favoring a macro-appraisal or an evidenced based records management approach when dealing with electronic records and others advocating a traditional approach modeled on the methods established by T. R. Schellenberg in the years following World War II. Although Schellenberg only officially recognized *evidential value*, or value that served as evidence of business and *informational value*, the value of the information contained within a document, he left open the possibility for other value decisions including intrinsic value.⁵

James M. O'Toole observed that Schellenberg "hinted" at intrinsic value and the term had been "current" in appraisal and preservation circles for some time eventually appearing in the archival glossary of 1974. It was not until 1979 when the National Archives and Records Service (NARS), under pressure to reduce their physical holdings, formed a committee to create a working definition that intrinsic value was established as a professional technique.⁶ The final committee report released in 1981 created a guide

⁴Sally McInness "Electronic Records: The New Archival Frontier?" *Journal of the Society of Archivists* Vol 19 (1998): 211-220.

⁵James M. O'Toole, "On the Idea of Permanence," *American Archivist* Vol. 52 (Winter 1989) : 22. O'Toole notes that, "Schellenberg had hinted at this idea in his discussion of the form and uniqueness of certain records."

⁶O'Toole, "On the Idea of Permanence"., 22.

for archivists to follow in determining the presence or absence of important characteristics that if transferred to another form, would result in their loss. The “qualities or characteristics” of intrinsic value set forth in this memorandum included nine possible definitions, any one of which, when met, could qualify a document for preservation in its original format. These included the following: 1) Physical form that may be the subject for study if the records provide meaningful documentation of significant examples of the form; 2) Aesthetic or artistic quality; 3) Unique or curious physical features; 4) Age that provides a quality of uniqueness; 5) Value for use in exhibits; 6) Questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination; 7) General and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events; 8) Significance as documentation of the establishment or continuing legal basis of an agency or institution; 9) Significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution.⁷ These nine guidelines created a practical method for applying intrinsic value and enabled consistent use across the archival community.

The committee also suggested that the application of intrinsic value take place at the series level, although it was noted that there may be exceptions where “certain individual record items within a series [may] have intrinsic value.”⁸ Additionally, these guidelines were designed to determine what records can be safely copied; therefore, the

⁷National Archives Records Administration, *Intrinsic Value In Archival Material*. no page numbers. Although meeting one of the qualities of characteristics could qualify a record series as having intrinsic value, NARA suggested that more stringent guidelines should usually be followed.

⁸Ibid.

minimum characteristics of an archival copy were also declared. As stated by NARS, at minimum, a copy should have “all the information of the original, be reasonably durable, easy to use as the original and, finally, capable of producing good copies.”⁹ Finally, this definition of intrinsic value was not implemented in order to de-accession documents from the collections at the National Archives, but rather to re-appraise them. Re-appraisal determined which records could be transferred into another format, in this case microfilm, without a loss of value.¹⁰

Intrinsic Value Literature

Although it has been part of the archivist’s vocabulary since 1974, literature and discussions concerning intrinsic value are rare. One of the few, Shauna McRanor’s “A Critical Analysis of Intrinsic Value,” is highly critical of the NARS memorandum from a theoretical point of view.. She attacks the guidelines as subjective and arbitrary and declares that they should be, “best regarded as a *practice* of the National Archives, not as archival theory.”¹¹ Although disavowing the preservation of information over records, she warns of the danger in devaluing the “original physical basis of a record” since “it is the combination of the intellectual and physical components of the archival document that constitute its form.”¹² Demanding impartiality she concludes, “archivists must quickly disabuse themselves of practices that ascribe value to archives.”¹³ Unfortunately, McRanor’s style and tone angered several practicing archivists and failed to impact the

⁹Magey Daniels., *Intrinsic Value, Archival Education and Irrelevancy*, paper presented at the 66th Annual meeting of the Society of American Archivists, Birmingham, Al., 19-25 August 2002, audio tape.

¹⁰Ibid.

¹¹Shauna McRanor, “A Critical Analysis of Intrinsic Value,” *American Archivist* Vol. 52 (Fall 1996) : 405.

¹²Ibid., 410.

¹³Ibid., 411.

archival community concerning the role of intrinsic value in appraisal.¹⁴ This all or nothing stance is representative of the differences between the *archives as evidence* approach stemming from Neo-Jenkinson and macro-appraisal literature and the *value attribution* approach as defined by Schellenburg and practiced by the National Archives and Records Administration that distinguishes between information and evidence.¹⁵

Proponents of a Neo-Jenkinson approach including Luciana Duranti find the application of value in the appraisal process to be a betrayal of the duties assigned to the archive by society and in doing so, archivists are engineering their own version of an archival record instead of preserving an accurate version for society to keep based on evidence, not information, they contain. As a result she concludes that, “Attributing value...would mean to renounce impartiality, endorse ideology and consciously and arbitrarily alter the societal record.”¹⁶

The macro-appraisal strategy, presently employed in the Canadian and Australian National Archives, gained momentum in the 1990’s as amounts of electronically produced records increased. In the new literature, appraisal still remains a component of the archivist’s duties yet the focus is much different. The heart of macro-appraisal theory dispenses with value attribution as too cumbersome for massive amounts of electronic records and looks to substitute appraisal by business function. Furthermore, it places an

¹⁴L. Dale Patterson, Letter to the Editor, *American Archivist* (Fall 1998) : 245-248.; Mageyne Daniels, audio tape.

¹⁵McRanor, 410.; T.R. Schellenberg, *Modern Archives: Principles and Techniques* (Chicago: University of Chicago Press, 1956), 15, 148-60”

¹⁶Luciana Duranti, “The Concept of Appraisal and Archival Theory,” *American Archivist* Vol. 57 (Spring 1994) : 328-344.

emphasis on creating a non-custodial archive where the archivist is a proactive advisor to the records creator and custodian.¹⁷

These “new paradigms” have not gone unchallenged by devotees of Schellenberg. Linda Henry, for example, presents a strong case for continued application of “traditional” archival theory in the face of exploding amounts of electronic records. Denouncing the functional approach of macro-appraisal theory and its aspiration towards post-custodial future, Henry writes, “Using it, archivists would fill their archives with records that document only the ‘footprints of bureaucrats’... The value of archives is cultural and humanistic, not just bureaucratic.”¹⁸ Furthermore, she disdains the failure of the new literature to explore “archival history and practice” as elements of their argument.¹⁹ Thus, the divisions of the argument are clearly delineated with champions of new theories facing off against proponents of accepted archival practices with intrinsic value either useful or not depending on which side of the discussion one believes.

Physical Form, Originality and Integrity of Electronic Documents

Due the nature of electronic records, establishing a practical application for intrinsic value is potentially more challenging than ascertaining its theoretical place in appraisal and may help explain why the term has fallen out of favor in recent published literature. For one thing, the concept of intrinsic value relies heavily on content that is fixed in form. The physical form is accepted as an important element in most federal and

¹⁷ For examples of papers focusing on Macro-Appraisal see David Bearman, “Archival Strategies,” *American Archivist* (Fall 1995); Terry Cook, “Electronic Records, Paper Minds: The Revolution in Information Management and Archives in the Post Custodial and Post Modernist Era,” *Archives & Manuscripts* 22 (Nov. 1994); Margaret Hedstrom, “Electronic Archives: Integrity and Access in the Network Environment,” *American Archivist* Vol. 58 (Summer 1995); Richard Cox, “Why Records Are Important in the Information Age,” *Records Management Quarterly* (January 1998).

¹⁸ Linda J. Henry, “Shellenberg in Cyberspace,” *American Archivist* Vol. 61 (Fall 1998) : 313.

¹⁹ *Ibid.*, 322.

state definitions of a traditional record; however, determining what constitutes a “physical” electronic record is problematic, nevertheless, important to consider. Without a clear definition, a record has the potential to be defined as any information moving through a digital environment; a cumbersome and untenable result.²⁰

The first problem to be addressed is that the boundaries of digital media are not easily discernable. Electronic records exist in pieces with content stored in different locations that are reassembled only with the help of a software program and/or system.²¹ A good example of this is the use of networked information without fixed publication points, such as that of continuously updated databases with their, “integrity, or singularity [residing] in the coherence of the database as a whole.”²² Bringing together these discrete elements may allow only a temporary view of the content on a screen or other output device that is potentially different when elements are brought together at a later point in time. With content separated from context in electronic records, the ability to rely on fixity from a traditional viewpoint becomes strained.

David Levy, a former member of the Xerox Palo Alto Research Center, comments on this digital dilemma by critiquing commonly held assumptions about the nature of documents; he points out that all documents, paper or digital, are fluid and that fixity is only a temporary state. Considering a paper document such as a memo of which copies are made, Levy points out that fixity is only achieved for short periods of time. The

²⁰Roy C. Turnbaugh, “What is An Electronic Record?” in *Selective Approaches for Managing Electronic Records and Archives*, ed. Bruce W. Dearstyne, (Lanham Md: Scarecrow Press., 2002), 25.

²¹Paul Conway, “Preservation in the Digital World” (Washington D.C.: Commission on Preservation and Access, 1996) no page numbers, electronic edition.
<<http://www.clir.org/pubs/reports/conway2/index.html>>

²²Donald Watters and John Garrett, *Preserving Digital Information: Report of the Task Force on Archiving of Digital Information*, (Washington D.C.: Research Libraries Group and Commission on Preservation and Access, May 1996)., p14.

potential reader of the memo actually controls fixity; he or she may annotate the memo thereby making it fluid once again.²³ “Fixity,” he states, “is not forever, and the rate of change and the ways in which they change are largely governed by the purposes they serve.”²⁴ From this perspective, information in a digital format, although unique in many aspects, has more in common with its paper predecessors than commonly believed. It is our familiarity with paper that makes electronic records seem irreconcilable. However, equating documents that appear on a screen with traditional paper documents can be “deceptive.”²⁵ The goal is to use these comparisons to better understand electronic records not explain away differences.²⁶

All records, whether in paper or digital form, share the common attributes of content, structure, and context and include both physical and logical attributes.²⁷ In electronic records, these attributes exist in both the record and the metadata of the record.²⁸ Although structure consists of both physical and logical attributes, authors regularly refuse to identify electronic records as “physical entities.”²⁹ Levy provides an alternative view, stating:

Digital documents are not immaterial. The marks produced on screens and on paper, the sounds generated in the airwaves, are as material as anything in our world. And the ones and zeros of our digital representations are equally material: they are embedded in material substrate no less than are calligraphic letterforms

²³David M. Levy, “Fixed or Fluid? Document Stability and the New Media,” *Proceedings of the 1994 ACM European Conference on Hypermedia Technology*, ACM Press (1996): 26.

²⁴Ibid., 26.

²⁵Turnbaugh. What is An Electronic Record? 32.

²⁶Levy’s comparisons, in my opinion, are effective for this reason.

²⁷Charles Dollar, *Authentic Long Term Records: Strategies for Long Term Access*, (Chicago: Cohasset Associates, Inc, 2000), 23. He defines logical attributes as the part of a document that is typically hierarchical such as found in a memo that includes a header, a body and signature. The physical attributes include type fonts, line spacing, page margins, etc.

²⁸Mary Rawlings Milton, “Electronic Records And The Law: Causing The Federal Records Program To Implode?” (Ph.D. diss., Virginia Polytechnic Institute and State University, 2000), 7. <<http://scholar.lib.vt.edu/theses/available/etd-04202000-1340008/>>

²⁹Dollar., 25.

on a piece of vellum. It may be true that digital representations can move around extremely quickly, that they can be copied from one storage device to another, even when they are separated by thousands of miles. But at any one moment, the bits for a particular document are somewhere real and physical”³⁰

Understandably, the intangibility of digital documents could make this difficult to accept. However, considering that the paper document dates back to the 1300’s, the amount of time spent establishing fixity of that medium hardly compares to the time spent attempting to understand the nature of digital information. Levy’s explanation, although requiring that archivists accept his word on faith, is a valuable move towards better understanding of digital records.³¹

Developing better understanding of the nature of electronic records will take time. While it may currently be impossible to absolutely declare records as physical entities, it also makes sense to assume this is not necessarily a final judgment. Saying the details have not been worked out on how to achieve consistent fixity at this time is better than assuming that fixity is “inherently absent” from the digital domain.³²

As defined, intrinsic value is also dependant on the ability to separate an original from a non-original. However, the archival community’s widely held belief regarding electronic records is that, “there is no obvious difference between an ‘original’ and a ‘copy.’”³³ This is understandable given that the ease in creating multiple copies identical to an original without reference to a “canonical version” produces documents with seemingly equal validity and quality; therefore, determination of an original is not an

³⁰David Levy, *Scrolling Forward: Making Sense of Documents in The Digital Age* (New York: Arcade Publishing, 2001), 155-6.

³¹Charles Dollar, *Archival Theory and Information Technologies: The Impact of Information Technologies on archival Principles and Methods* (Macerata, Italy: University of Macerata, 1992), 36.

³²David Levy, *Scrolling Forward*, 37.

³³Margaret Hedstrom, “Electronic Archives: Integrity and Access in the Network Environment,” *American Archivist* Vol. 58 (Summer 1995): 316.

easy proposition.³⁴ Determining the value of an *original* versus a *copy of that original* is at the heart of intrinsic value decisions. Recent research may clarify this important and complicated concept. Norman Paskin notes that the purpose and the ability to recognize granularity is key to differentiating between a digital copy and an original. “The crux of the problem,” according to Paskin, “is that in determining whether A is the same as B, we find that ultimately nothing is the same as something else; however, it makes sense to consider that A is the same as B for a *defined purpose*.”³⁵ He ties this concept to the granularity of a digital artifact, stating that, “Recognising [sic] sameness among [sic] a population...depends on choosing which particular set of attributes of a number of entities we consider relevant... and ordering the population into sets defined by the relevant attribute for the purpose in hand”³⁶ For example, a copy of a CD has the “same” music as the original and can be thought of as “identical.” Upon further investigation, the revelation that it is recorded at a different time, most likely on a different machine and housed in a different case makes it unique. Therefore, the key to determining an original is keeping accurate and detailed metadata to a level of granularity sufficient to identify it as a copy.³⁷

Nevertheless, defining a level of metadata acceptable to identify a digital entity for a specific use could still result in “identical” digital documents that meet the same accepted criteria. At first glance, the difficulty of separating an original from a copy

³⁴Clifford Lynch, “The Integrity of Digital Information: Mechanics and Definitional Issues,” *Journal of the American Society for Information Science* 45 (1994) : 743.

³⁵Norman Paskin, “On Making and Identifying a ‘Copy’,” D-Lib Vol 9 (January 2003): < <http://www.dlib.org/dlib/january03/paskin/01paskin.html>>; James M. O’Toole, “On the Idea of Uniqueness,” *American Archivist* Vol. 57 (Fall 1994): 639.

³⁶Paskin., No page numbers, electronic edition.

³⁷Ibid.

appears to reduce the usefulness of intrinsic value as defined. However, this is not the case. Since uniqueness is consistently “shaded and measured by degrees,” and the increasing use of technology is eroding the traditional divide between an original and a copy; the expectation to find unique entities is less likely or necessary.³⁸ By accepting the absence of a true original, one other possible approach exposed is to view an original electronic record as its digital representation instead of any specific computer file in any format.³⁹ Digital copies of the original can therefore be accepted as equivalent originals providing that they are exact duplicates for a stated purpose with the corresponding integrity preserved. This solves the problem of defining and appraising only original records and shifts the focus toward finding acceptable authentic and reliable records, regardless of whether they are unique.

Although an electronic record is not necessarily unique, the need to ensure its integrity remains important. Solving the problem of integrity involves integrating authentication procedures and documenting changes made to electronic records. Techniques used in information security, including watermarking and checksums provide technological methods for determining originals. Although not perfected, improving these techniques offers some assurance that digital records remain authentic and original. The opportunity to incorporate accurate tools is likely to improve as technologies improve; however, librarians and archivists are likely to remain “bystanders,” dependent

³⁸James M. O’Toole. On the Idea of Uniqueness. 657. He reveals that because uniqueness is common, especially in modern records, it does not allow us to draw any meaningful distinctions.

³⁹Gregory S. Hunter, “The Archival Hedge: Intrinsic Value and Electronic Records,” paper presented at the 66th Annual meeting of the Society of American Archivists, Birmingham, Al., 19-25 August 2002, audio tape.

on the development of better protocols and data security techniques from outside the profession.⁴⁰

Electronic Records and Intrinsic Value

With its roots in paper and questions remaining about the nature of electronic records, the literature on intrinsic value is naturally centered on traditionally archived materials with only occasional reference to digitally produced information. The two most recent explorations of the topic are typical. For example, Shauna McRanor's investigation of the theory behind intrinsic value only slightly broaches the subject of electronic documents. Her only comment warns that concentrating on physical form as a requirement for intrinsic value, its usefulness in appraisal decisions regarding "electronic originals" was "further reduced" due to difficulties in defining an original electronic record.⁴¹ Another recent research effort that hints at the digital implications of intrinsic value concludes by emphasizing the unstable nature of electronic documents as requiring either migration to a stable format such as HTML or converting digital resources to an analog representation (paper, for example) along with enough metadata to restore it to digital form.⁴²

Recent research on appraisal and preservation of electronic records does not invoke intrinsic value by name; however, the implication that it is a viable consideration is apparent. The final report from the InterPARES appraisal task force, incorporates

⁴⁰ Paul Conway, "Preservation in the Digital World." No page numbers, electronic edition.

⁴¹ McRanor, 410.

⁴² Angelika Menne-Haritz and Nils Brubach, "The Intrinsic Value of Library and Archive material" *Microform and Imaging Review*, Vol. 29 (Summer 2000): 81-82, 85. Interestingly, the authors seem to overlook that conversion to paper defeats the basic principle of intrinsic value, namely the retention of records in their original form.

ideas from both traditional and macro-appraisal literature and upholds the attribution of value during appraisal of digital information.⁴³ Among the activities necessary to establish an authentic electronic record are the identification of contextual information about the creation of the record, its technical elements and digital components. Identification of these elements results in a “list of intrinsic and extrinsic record elements that must be preserved in order to ensure authenticity.”⁴⁴ This is strikingly similar in nature, if not intent, to the “qualities and characteristics” statement from the 1981 NARS guidelines. In addition, the task force alludes to the acceptance of a “physical” form of an electronic record.⁴⁵ Although “physical” is not defined, the inference that electronic records have physical form is a sign that records professionals and theorists continue to contemplate the nature of digital information. In doing so, digital media becomes less mysterious and much more manageable.

It is the National Archives and Records administration offers the strongest endorsement for protecting original digital information. Responding to the pressure exerted from the wholesale adoption of technology by government agencies and initiatives including the Paperwork Reduction Act, NARA is beginning to move towards an electronic records archive.⁴⁶ The overall goal is to create a system independent of specific hardware or software that will “store and read data in its original format no

⁴³ *Appraisal Task Force Report, The Long Term Preservation of Authentic Electronic Records. Findings of the InterPARES Project Part Two, Choosing to Preserve: The Selection of Electronic Records*, by Terry Eastwood, chairman (University of British Columbia: no date) 9-10. PDF. <www.interpares.org/book/index.cfm>

⁴⁴ Appraisal Task Force, *InterPARES Project.*, 11-12.

⁴⁵ *Ibid.*, 1.

⁴⁶ Jason Miller, “Digital Records Swamp NARA” *Government Computer News*, February 2003. <http://www.gcn.com/22_3/news/21096-1.html>(26 March 2003)

matter how it was created.”⁴⁷ Although the development of a workable system is only in the planning stages, the intrinsic importance of the original bits is considered crucial to long term preservation.

Intrinsic Value and Recent Legal Decisions

Recent legal decisions also support extending intrinsic value for use with digital information. For starters, NARA’s definition of a record, including both paper and electronic records, remains acceptable to the courts.⁴⁸ Furthermore, two separate court cases established a legal precedent for retaining electronic documents in original formats. In a 1993 ruling, *Armstrong v. Executive Office of the United States*, the U.S. Court of Appeals ruled that printouts of presidential E-mail, “may omit fundamental pieces of information which are an integral part of the original electronic record.”⁴⁹ The ruling also concluded that there were “fundamental and meaningful differences in content between the paper and electronic versions of these documents.”⁵⁰ The court also demanded that in order to preserve this value, records should be maintained in a “record keeping system that preserves their content, structure and context for their required period.”⁵¹ The ruling was not unique. In 1997, federal district judges ruling on *Public Citizen v. John Carlin* found that an electronic record’s “administrative, legal, research, and historical value is not always captured – indeed, is usually not captured – by paper or

⁴⁷Ibid., Comment of Reynolds Cahoon, assistant archivist of human resources and information systems.

⁴⁸Henry, 316.

⁴⁹United States General Accounting Office, *Information Management: Challenges in Managing and Preserving Electronic Records*, Report to Congressional Requesters, (Washington D. C.: June 2002), GAO-02-586, 61.

⁵⁰Ibid., 62.

⁵¹Ibid., 62.

microfiche copies.”⁵² Even though both rulings related to the transfer of electronic records to paper, the implications are strong enough to warrant a reconsideration of how electronic records are preserved in long-term digital storage. In other words, if an electronic record is potentially different when printed on paper, how different is it when migrated from its original software environment to another potentially more stable yet different environment? Questions such as these are necessary to help archivists decide the best course to take regarding the long-term preservation of information originally in digital form.

Applying Intrinsic Value to Electronic Records

The application of intrinsic value is not intended to replace other forms of appraisal, but rather to complement them. For this reason, intrinsic value could co-exist with a functional or Macro-appraisal system, serving as a safety net to ensure that important research information not being saved in a functional system is captured and preserved. In this limited sense, it serves as a bridge between older, widely employed strategies, and lesser-known new appraisal strategy. Since the NARS guidelines for determining intrinsic value were intended to provide guidance for paper-based records, just how useful they will be for digital information is unclear. Although some of the NARA criteria work just as well with digital as they do with paper, others do not easily make the transition. Nevertheless, it is important to establish how intrinsic value might

⁵²Ibid., 63.

serve electronic record appraisal. The 1981 guidelines provide a useful starting point.⁵³

Some potential applications to digital documents are as follows:

- 1) Physical form that may be the subject for study if the records provide meaningful documentation of significant examples of the form.

The NARS committee used this characteristic to protect historically valuable examples of technological development. [Examples demonstrating metamorphosis of online public access programs from text based, Kermit style to versions of GUI interfaces might be useful to library historians with an interest in technology.]

- 2) Aesthetic or artistic quality.

In the digital realm this might include image and multimedia files such as those done in Flash or QuickTime. As connection and processing speeds increase, more institutions are utilizing this type of presentation and multimedia is increasingly found on both private industry websites as well as some public agency ones. In addition to commercially produced work, artists are exploring the realms of digital world. In these cases, preserving the original would preserve its real value.

- 3) Unique or curious physical features.

How does an E-book representation of Moby Dick viewed on a PDA differ from an electronic version on Barltelby.com? As technologies change, there will continue examples to choose from. Here, as in example one, the committee did not intend for these to be archived in large quantities, just representative samples.

- 4) Age that provides a quality of uniqueness.

Because it is connected to scarcity, this is the least likely of the guidelines to apply to electronic records. However, NARS original example concerns the earliest records relating to the development of nuclear power and radio. Considering the wide variety of technologies and their development, it is not unfeasible to think that records decisions made concerning technology will continue to be valuable to future researchers attempting to better understand how it impact institutions and agencies.

⁵³National Archives Records Administration, *Intrinsic Value In Archival Material*. No page numbers, Electronic Edition. Although meeting one of the qualities of characteristics could qualify a record series as having intrinsic value, NARA suggested that more stringent guidelines should usually be followed.

5) Value for use in exhibits.

Visiting the traveling exhibit of presidential portraits is an enlivening experience. Future museum goers may enjoy seeing how successive Presidents or Governors used their websites to promote themselves to the public. Additionally, websites of government agencies at lower level than the executive, such as the state and federal environmental protection agencies, may also qualify.

6) Questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination.

Court cases such as *Armstrong vs. The Executive Office of the President* have already begun to address the importance of retaining digital information in their original formats. Other examples, including one from the InterPares project note that electronic records might be preserved if “poor record keeping practices” or evidence of “willful or fraudulent tampering with the records comes to light during appraisal.”⁵⁴

7) General and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events.

It is reasonable to think that the E-mail of a famous person or important government official may be of interest to future researchers. The closer this information is kept to the original, the more significant details that may be ascertained. For example, official communication between weapon inspectors and officials in Washington before the start of the conflict in Iraq will be important to future historians. Transferring original digital messages to other formats without considering the important intrinsic elements first, could result in an irretrievable loss that may reduce our ability to better understand past events. As the committee noted, this guideline is the most difficult to apply because of the large numbers of records that might qualify. Therefore, tough scrutiny is mandatory when applying this guideline.

8) Significance as documentation of the establishment or continuing legal basis of an agency or institution.

As the NARS paper states, maintaining the original formats of these records may provide documentation of changes including the gain or loss of functions and responsibilities through decisions made by the executive, legislative and judicial branches of government. E-mail and spreadsheets used to influence these decisions are an example.

9) Significance as documentation of the formulation of policy at the highest

⁵⁴Appraisal Task Force, *InterPARES Project*, 10.

executive levels when the policy has significance and broad effect throughout or beyond the agency or institution.

Preserving the original record affords researchers the best possible view of these changes. For example, GIS files that are used to make decisions regarding redistricting would be of greater value if the original bits were available for researchers to investigate what data were actually available to make these decisions.

The committee understood that numerous policy decisions are made and not all are intrinsically valuable. Those that are often include decisions made at the highest executive level. Websites are of particular interest at the governmental level. They can serve as a promotional device, an information portal, and as a means to disseminate public policy information to the general public. Depending on the depth that archivists mine information from linked sources, the impact of influences from outside government could also be explored. Because of this diverse usage, original HTML files with links intact could prove valuable to historians investigating election strategies or public policy promotion at executive levels.

The NARS guidelines only translate to electronic records to a certain degree and new ways to approach intrinsic value should be explored. For example, Mike Miller poses three questions that should be asked when deciding the ability of a non-original format to represent an original. These include: “What do I lose?” “If lost, does it affect people’s ability to use and understand records in the future?” and “How much does it cost?”⁵⁵ He notes that although digital data from CAD/CAM, GIS and computer modeling are the only data currently meeting his criteria, there are other types to be considered. For example, understanding why the FBI failed to produce all necessary

⁵⁵Michael L. Miller, Chairman’s Comments from Session on Intrinsic Value, presented at the 66th Annual meeting of the Society of American Archivists, Birmingham, AL, 19-25 August 2002, audio tape.

documents for the case against Timothy McVeigh can be facilitated by an investigation of the clunky interface and restrictive environment the system presented to its users.⁵⁶ As more digitally produced information is brought into permanent collections, additional principles are likely to apply. Another set of guidelines for determining whether to retain electronic records permanently is suggested by David Stephens and Roderick Wallace.

They suggest considering whether:

(1) The value of the data, and the benefits of preservation, have been clearly established. The value of the data must be *substantial* and the benefits of preservation must be *demonstrable, if not quite compelling!* (2) The preservation of the data in *manipulatable, computer-processable* form is *required* to support *significant* research objectives. (3) The conversion of the data from a *dynamic* to a *static* state (e.g., from digital to microfilm format) would severely diminish its value or render it unusable to satisfy required (rather than “nice to have”) research objectives. (4) Finally, appraisal decisions to preserve electronic records permanently should, where possible, be supported by *cost benefit analysis*. At a minimum, the benefits of preservation should be based on a *high degree of expected usage* of the data.⁵⁷

Consideration of cost is important, especially to archives and records programs subject to severe cutbacks in budget. Appraising for intrinsic value offers archivists a method for cost reduction since it separates records requiring potentially costly preservation in their original formats from those that can be preserved in cheaper non-original formats.

The cost of preserving these records is directly proportional to changes in computer technology, and according to Moore’s law, major technology change occurs at the rate of every eighteen months. Archivists are under great pressure to keep up with these changes and simultaneously reduce costs, unfortunately, a digital record may only

⁵⁶Ibid., audio tape.

⁵⁷Stephens and Wallace, *Electronic Records Retention: An Introduction*, 56.

last as long as the technology that supports it.⁵⁸ This scenario results in an expanded role for appraisal as an important cost reduction device. Considering only the difficulties associated with the digital preservation of electronic documents and not the information contained in those documents, technological concerns could be cited as an excuse not to appraise electronic documents. However, technology concerns are an accessioning problem and not a problem that should affect appraisal. These concerns should not become prerequisites for appraisal decisions that result in the destruction of potentially valuable information without it ever being appraised.⁵⁹ InterPARES addresses this problem as well:

The balance between value and feasibility rests on an exercise of judgment, on a case-by-case basis. For example, an appraiser could be confronted with a situation where preserving records would entail considerable costs. But this does not necessarily tip the decision against preserving the records. If the records were of extraordinarily importance or their preservation were mandated by law, the archivist might look for either alternative sources of funding or another preserver, or come to an arrangement by which the creator would preserve the records – at least for a certain period of time.⁶⁰

The result of retaining digital records in their original formats could increase costs with the financial burden falling on the archive/records agency. As a result, the desire to appraise for intrinsic value may be lessened and practical circumstances will undoubtedly make this a consideration.

Because large digital content management systems presently being explored by NARA to archive electronic records digitally are likely to remain rare for agencies and institutions on tight budgets, intrinsic value could actually be used as a means to reduce

⁵⁸Margaret Hedstrom, "The Digital Preservation Agenda," In *The State of Digital Preservation : An International Perspective: Conference Proceedings*, April 24-25, 2002, 35.

⁵⁹Michael L. Miller, Is the Past Prologue? Appraisal and the New Technologies, Archives and Museum Informatics Technical Report #13, *Archival Management of Electronic Records*, (1991): 42.

⁶⁰Appraisal Task Force, *InterPARES Project.*, 13.

costs associated with preserving records in their original formats. Assuming costs of preserving original digital formats would be significantly higher for archives that normally only convert them to a stable format such as microfilm, for other archives, intrinsic value is crucial in separating those records where original bits are important from those where it is not as critical. Therefore, applying this appraisal standard could help archivists/record managers decrease the amount of records necessary to keep in their original format, thereby reducing costs.

Finally, although the concept of intrinsic value calls for objects to be retained in their original bits, warnings about retaining digital objects *only* in obsolete computer formats should be observed.⁶¹ Since the purpose of archiving anything is to preserve it for future use, retaining electronic records only in an unsupported and unreadable format for the sake of intrinsic value undermines this goal. Best practices dictate that, at the very least, a stable form of the record should be kept in addition to the original to ensure that a usable version of the records remains accessible.

Goals of the Study

This pilot study seeks to find out how archives/records agencies are presently appraising and preserving electronic records by interviewing professionals at various state institutions. Also important to this study is to determine the potential for the addition of intrinsic value analysis to the practices presently being employed by state records professionals. Lastly, this study seeks determine this by investigating both similarities and differences between various agencies at the state level.

⁶¹Hedstrom, *The Digital Preservation Agenda*., 35; Stephens and Wallace, *Electronic Records Retention: An Introduction*., 17-18.

The goals of this pilot study were to explore the appraisal and preservation practices of nine state archives/record agencies in an attempt to address the following questions:

- Is the concept of intrinsic value, including the protection of the original file in its native format, being applied to electronic records both in or outside state archives custody?
- To what degree are components of electronic records, including contextual information (metadata) as well as attachments and information from embedded links, deemed valuable at the state level?
- What influence do state and federal laws have on the application of intrinsic value analysis to state documents?
- Do the methods used by state institutions to preserve electronic records maintain their intrinsic value?
- What is the impact on the intrinsic value of electronic records maintained in state archives by researchers that use these records?

The decision to focus on the practices of state agencies for this pilot study was made for several reasons. First, the chances of finding archives/records management departments with electronic records experience and holdings were deemed to be greatest at the governmental level. Secondly, comparing how states are managing their electronic records provided an opportunity to investigate an area of interest to this researcher. Finally, while a study of federal practices would be useful, it was hoped that a wider understanding of intrinsic value and the potential for applying it to electronic records could be gained by contrasting and comparing appraisal and preservation techniques across several archives/record centers.

Methodology

A total of nine state archives/record agencies were selected, mostly from the southeast and telephone interviews arranged via e-mail. In some cases, the person contacted referred the interviewer to a co-worker or subordinate who was knowledgeable about the records program at that institution. Since this pilot study intended to provide a point of departure upon which future research could be built, the number of state archives involved was intentionally kept to a minimum. Selection of a specific institution was made after researching state websites revealed efforts to manage electronic records at some level. Efforts included published records schedules that included electronic records, guidelines for management of e-mail, policy statements specifically addressing electronics records and education/training opportunities for employees in state agencies on how to manage their electronically produced information of value.

After selecting the agencies, e-mails were sent to records managers identified from their websites inviting them to participate. Interviews were then scheduled with the first nine to respond. The interviews were conducted by telephone over a period of two weeks. In conducting the interviews, one archivist/records professional usually answered all the questions to the best of his or her knowledge; however, in two of the interviews, two professionals answered the questions – an archivist and records manager in one and a records professional and an information technologist in the other. Electronic records are a relatively new problem for state archives. Since intrinsic value of traditional archival materials is considered only on a limited basis, it was doubtful that intrinsic value would be purposely considered when appraising electronic holdings. This is especially pertinent taking into account that questions concerning the nature of digital documents remain

unresolved. Therefore, the interviewer wrote questions to avoid placing an over-emphasis on the term “intrinsic value” and instead focused on behaviors that might reveal decisions and strategies made as a result of considering the intrinsic nature of electronic records. It was possible that these decisions would expose commonalties with the intrinsic value guidelines outlined by NARS, legal influences concerning the originality of electronic records, and research preferences of users. Therefore, questions were arranged by the ideas that influence the concept of intrinsic value and included legal issues, identification and preservation of key elements of electronic records, originality, cost, and long-term preservation of research material. The list of the questions is located in appendix A.

Significance

This pilot study begins an exploration of the degree to which state archives/records centers are determining the value of their electronic records holdings based on intrinsic elements found in or related to those records. The information collected in this study serves three distinct purposes. First, the study identifies how some state records programs are presently thinking about intrinsic components of electronic records. In doing so, it will provide state archivist/records managers with information about how other states are approaching this topic. Second, the use of intrinsic value in appraisal and management of electronic information, including the need to preserve original data, is explored. Thus allowing professional archivists/records managers to determine if and when it should be applied during appraisal. Third, it will provide a background for future studies on the application and use of intrinsic value with electronic

records and help gauge possible changes in approaches to digital information management.

Study Findings

The study findings are arranged by the concepts defined in the interview questions. The first section includes background information and characteristics of the archives. This is followed by a section on the factors that influence acquisition and appraisal decisions including legal and possibly intrinsic factors. The third section includes decisions made concerning preservation of electronic records and their impact on the intrinsic value of the collection. A final section addresses the present and future impact of research with these records and how intrinsic value facilitates it.

Electronic Records in State Collections

The oldest electronics records of the state agencies interviewed were accessioned around 1991. Three of the agencies accepted their first electronic data just last year. The interviews revealed that states have been scheduling electronic records longer than accessioning them. For example, Agency #3 scheduled records for 10-12 years prior to accepting their first batch of e-mail last summer. Not all agencies interviewed accept the transfer of electronic records into their facility. Agencies #1, #2, and #7 have all taken a non-custodial approach towards electronic records that permits the creators to manage records they create with guidance from records professionals.⁶² Each agency does this for several reasons. In the case of agency #1, the nature of the state government as

⁶²David Bearman, *Archival Methods* (Pittsburgh: Archives and Museum Informatics, 1989), <http://www.archimuse.com/publishing/archival_methods> Bearman was first to suggest archivist take a post custodial role; Henry, "Shellenberg in Cyberspace, 321. Linda Henry questions the soundness of the non-custodial approach.

defined by its constitution demands that state agencies maintain a level of autonomy. Therefore, these agencies do not send their records to a central location and the collection is managed on site with consultation from the state records division. Based on financial constraints and the cost of maintaining electronic records, Agency #7 does not accession electronic records. Although the management of these records is left up the agency that produces them, a state information technology division does make backup tapes of agency records. These tapes, however, are not maintained by the records agency. For Agency #2, this situation may change over time since the potential development of a “data archive” to house electronic information is presently being considered.

With most archives only recently archiving electronic records, it comes as no surprise that the sizes of the collections are relatively diminutive. While seven of the nine records agencies did archive a certain amount of born digital information, the exact size of the electronic records holdings by the various states was unclear and a common description of collection size was “small.” Agency #3 disclosed a 45-gigabyte collection while Agency #8 was less specific and had accessioned “seven or eight CD’s” dating back only to last year. Agency #4 placed their collection at “less than ten separate series” while the other interviewees with holdings were not quite sure of the exact size.

These collections are comprised of a variety of document formats and include E-mail, word processing files and image files - both TIFF and JPEG, among others. Additional types of formats are also being archived including HTML and database information. Agency #5, for instance, is archiving a database of prison records stored on magnetic tape while Agency #6, #8 and #9 are archiving the websites of their most recent former governors. The techniques utilized to archive these websites vary widely. In one

instance the original HTML was preserved and in the other two, only a screen shot of the main page was kept. An effort to preserve a streaming video containing the Governor's message that had been part of an executive level website failed because the site had been managed by a contractor who deleted the file. Efforts are being made to ensure this type of information is kept in the future. All of these agencies noted that the scope was limited to just the website itself and no effort was made to follow links from the website to other pages. As one respondent stated, "we don't archive the Internet."

Agencies #3, #4, #5, #7, and #8 had accessioned e-mail. In all of these instances, the e-mail was produced at the state executive level. In most cases, the need to capture attachments was considered important; however, it was not always clear that this was being done. Not surprisingly, information from embedded links was not actively sought due to the time and cost involved in researching this information.

Five of the agencies said that they make decisions regarding the appraisal of electronic records at the series level, one agency made decisions based on the material itself while the other three were non-custodial. Because several of those interviewed began dealing with electronic records only recently, identifying components of records such as contextual information that might be intrinsically valuable was difficult. Nevertheless, the interviews identified several types of contextual information of notable importance. This included header information from E-mail, information about software used to create the record, access information including who had access and when, and information about the original operating system. When asked what kind of contextual information is kept, one respondent stated, "everything we can get!"

Legal Issues

Legal definitions of electronic records were available for seven of the nine states via their respective websites. In lieu of independently addressing electronic records, the states mimicked the federal definition written for traditional records; this definition is inclusive of electronically produced information. In order to treat electronic records similarly to traditional records, all of the definitions included the declaration, “regardless of physical form or characteristics.”⁶³ For example, North Carolina defines a “public record” as:

...all documents , papers, letters, maps, books, photographs, films, sound recordings, magnetic or other tapes, electronic data-processing records, artifacts, or other documentary material, regardless of physical form or characteristics, made or received pursuant to law or ordinance in connection with the transaction of public business by any agency of North Carolina government or its subdivisions.

In lumping electronic records with traditional materials in the legal definition, the potential to apply traditional appraisal techniques, including intrinsic value remains viable. In addition to the standard legal definition of a record, Agency #1 revealed that their state legislature has passed a law allowing a record to remain in the digital format. A stipulation of this law states that these records must be maintained by the originating agency in standard information formats that can be easily migrated. Similarly, legislation was in place encouraging record managers at state Agency #5 to maintain records in digital form, if created digitally. The agency had the right to migrate it to analog if deemed necessary for preservation purposes. Agency #8 reported that all electronic records were eligible to be maintained in electronic format, with the exception of land deeds that must be maintained on paper. Additionally, it was expected that electronic

⁶³Turnbaugh, “What is An Electronic Record?,” 30-31.

signature laws and e-government would soon impact their program.⁶⁴ The records manager at Agency #7 stated that no state legislation directly impacting how they managed electronic records had been enacted at this time; however, a bill potentially affecting the preservation of E-mail was under consideration.

As discussed earlier, legal challenges at the federal level have stressed the importance of original record formats and indirectly legitimized the application of intrinsic value. Therefore, an attempt was made to determine if the federal cases had any impact upon the state record agencies or if any legal decisions at the state level have had similar effects. On this point, none of the interviews revealed any litigation along the lines of *Armstrong v. Executive* at state level that might influence the adoption of procedures to protect the original data of the records.⁶⁵

Identifying Intrinsic Elements in State Records

The state records professionals interviewed do not presently appraise electronic records for their intrinsic value. The majority of electronic records earmarked for retention by the state record agencies are included because of other value considerations, mostly evidential, legal, or administrative. Nevertheless, all of the agencies possess some records whose value could be degraded if their original bits are not secured. The opportunity to apply intrinsic value is nevertheless still practical even in the wake of recent arguments calling for the abandonment of traditional appraisal for a Macro-

⁶⁴Alan S. Kowlowitz, "Playing the Electronic Angles and Digital Seams, the Challenges and Opportunities State Electronic Government Initiatives Present to State Archival and Records Management Programs" in *Selective Approaches for Managing Electronic Records and Archives*, ed. Bruce W. Dearstyne, (Lanham Md: Scarecrow Press., 2002), 89-108. Kowlowitz discusses the potential impact of E-government initiatives and laws.

⁶⁵*Armstrong v. Executive Office of the President*, 810 F. Supp. 335 (U.S. Dist). Lexis-Nexis.

Appraisal method. This is because these agencies still consider use an important factor and continue to think about value during appraisal electronic records. For example, when evaluating any type of record, Agency #9 considers whether it is a “hot topic” that researchers will be interested in. Additionally, historical research value was also considered important to both Agency #7 and #2. This action follows the practice established by earlier archivists working with electronic or, as known at that time, machine-readable records.⁶⁶

When thinking about the value for future historical research, some of the information already being collected at the state level could be considered for its intrinsic value using the NARS guidelines. The governors’ websites are one example. They could meet any one of several criteria as defined by NARS including “...direct association with historically significant people...,” “Physical form that may be the subject for study...,” “Value for use in exhibits,” and “Aesthetic or artistic quality.” Spurred on by the increasing technological maturity of recent governors, three of the records professionals interviewed said that executive level websites are important records since they present historical as well as evidential information in governmental reports made available through the sites. In two of the three instances where an attempt was made to archive a governor’s website, only screen shot images were retained. The depth that archivists mined for relevant information was limited as well, and only pages within the confines of the site were archived. This procedure provided a technically secure version for future use; however, without the original HTML, the interactivity of the original is lost. To

⁶⁶Meyer H. Fishbein, “The Traditional Archivist and the Appraisal of Machine Readable Records” in *Archivists and Machine Readable Records*, ed. Carolyn L. Geda, Eric W. Austin and Francis X. Blouin, Jr., Chicago: Society of American Archivists, , 1980. 56-61. Fishbien discusses what question need to be answered by archivists appraising electronic records for historical value.

what degree that this affects the ability of researchers that use this information is yet to be determined.

Government correspondence is commonly archived in paper form, so it comes as no surprise that e-mail is beginning to show up in state records collections. These e-mail messages may also meet some of the intrinsic value considerations especially those that document, "...the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution" and those that might have "questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination."⁶⁷ Similar to the websites, e-mail produced by the state governor is one of the first types of electronic records accessioned. In Agency #3 and Agency #4, the first sets of electronic records accessioned have been executive level e-mail. As with other types of born-digital records, the best practices regarding the long-term preservation of e-mail are still being determined at the state level.

Preservation and Migration Issues

At present, several agencies interviewed maintain electronic records in their native formats. In no instance, however, did their individual goals include the long-term retention of documents in their native formats. Most follow practices similar to Agency

⁶⁷National Archives Records Administration, *Intrinsic Value In Archival Material*. no page numbers. The criteria are 1) Physical form that may be the subject for study if the records provide meaningful documentation of significant examples of the form; 2) Aesthetic or artistic quality; 3) Unique or curious physical features; 4) Age that provides a quality of uniqueness; 5) Value for use in exhibits; 6) Questionable authenticity, date, author, or other characteristic that is significant and ascertainable by physical examination; 7) General and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events; 8) Significance as documentation of the establishment or continuing legal basis of an agency or institution; 9) Significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution.

#9 which takes electronic information in native formats as long as it can be read by hardware and software available to the agency. If potential problems are identified and records in their original formats will soon be unreadable by existing hardware and software, the records are migrated.

Successful migration is accomplished when the basic elements of structure, content, or context are preserved.⁶⁸ Successful conversion meets these requirements as well.⁶⁹ While accounting for the content and context of a migrated record, the amount of structure actually maintained depends on how the record is migrated or converted. Agency #3 reported that they are very selective on what they actually accession and will immediately convert files to formats supported in the facility. For example, a recent group of E-mail accessioned by this agency was immediately converted from MS Exchange to MS Outlook because MS Exchange was not available in the records agency. Agency #8 began accessioning only just last year but will soon not be accepting any digital information in proprietary formats. In lieu of migration, Agency #6 and #2 convert their electronic records to microfilm or paper when any information is deemed important for long-term preservation. The use of analog representations of original electronic files is accepted at all agencies interviewed for this research. The degree of preference is variable depending on the agency. For example, record Agencies #8, #5 and #3 accept paper printouts of originally digital information but prefer to keep it in the electronic form. Other agencies, such as #2 and #6, prefer retaining microfilm versions of records over the native formats.

⁶⁸Charles Dollar, *Authentic Long Term Records: Strategies for Long Term Access*, 72.

⁶⁹*Ibid.*, 29.

In order to reduce the costs of migration, non-proprietary formats are being explored for use at state agencies. XML, for example, is not presently being utilized at any of the agencies; however, Agency #3 is considering it as the front-runner to solve issues of migration and software stability. Adobe PDF-A, a proprietary format that can be used to read any PDF document independent of the date created, is being explored for implementation at one agency.

Impact on Researchers

None of the state records agencies knew of any research being conducted using any of the electronic holdings in their possession. Therefore, it is logical to conclude that the limited holdings and the relative newness of the information prevent the majority of these records from being pursued by historians or other researchers at present. The lack of access is also related to limited exposure through traditional publication systems such as public access catalogs and electronic finding aids. For example, it was noted by Agency #9 that they did not have electronic finding aids for any of their holdings, however, this problem would be rectified once the installation of a new system is complete. In other instances, agencies with public access catalogs had not added these files to their system. Agency #3 added bibliographic records for their recently accessioned e-mail to their public access system yet no requests have been made. Overall, the impact on researchers was not apparent regarding electronic information at this time and format preferences or concerns had not been voiced over the availability of the original files.

Cost

The recent economic downturn has affected state governments nationwide. All of the records managers interviewed admitted that their budgets are affected, some more seriously than others. For instance, Agency #5 is at half the staff from two years ago while the director at Agency #4 is unable to fill their present vacancy for an electronic records professional due to budgetary constraints. Additionally, the three non-custodial records agencies are not accessioning electronic records, at least partly, because of financial constraints not tied to the current state budget woes. Instead, they were already having to do “much more with much less” and adopted post-custodial techniques to cope.⁷⁰ Agency #7, for example, is part of a state system where the information technology group is adequately funded, while the records management program receives less attention and funding.⁷¹

Limitations

The strict division between archives and records agencies in some states coupled with the relative newness of the electronic record phenomenon created a conundrum in conducting this pilot study. Because state records managers work closely with retention schedules requiring strict limitations on retention times, many records do not qualify for long-term preservation after the legal or administrative functions have been exhausted. Of those records that could qualify for permanent preservation based on their intrinsic value, their long-term storage was delegated to the state archives rather than the state

⁷⁰Kathryn Hammond Baker, “The Business of Government and the Future of Government Archives,” *American Archivist* (Spring 1997) : 250.

⁷¹Roy C. Turnbaugh, *Information Technology, Records and State Archives*, 189. The competition between state archives and other agencies for information technology resources is not unusual.

records center. Due to time constraints, eight of the nine interviews were conducted with records professionals only and their knowledge of digital collections that might be in their sister archives was limited. While this did not preclude the investigation into intrinsic value and electronic records by a state records agency, the combination of factors did influence the amount of information that could be gathered during the interviews.⁷² Future studies, therefore, could address the division between records and archives by interviewing professionals at both institutions.

Conclusion

This pilot study has shown that intrinsic value and electronic records are not incompatible. Recent literature, critical of appraisal strategies that assign value to electronic records, does not appear to have greatly altered appraisal at the state level. It is evident that Macro-Appraisal strategies are being implemented to various degrees in the states; however, it also appears that appraising for historical value still remains an important part of what archivists/records professionals do.

In addition to revealing appraisal approaches at the state level, this pilot study uncovered other challenges to preservation of electronic records that need to be addressed. These include reducing the cost of long-term preservation of electronic records, determining the needs of future researchers and preparing for potential future legal and legislative actions similar to those at the federal and state level in the wake of

⁷²Roy C. Turnbaugh, "Information Technology, Records and State Archives," *American Archivist* (Spring 1997) : 191-192. Turnbaugh states that state programs that separate archives from records management have difficulty "eliminating disconnects" between the two. In some cases the government agencies prepare series descriptions instead of records managers, thereby making it more difficult for the archivist to appraise the records. Also, where records managers are describing records, the archivist often duplicates their effort when records are archived.

expanded E-government. Intrinsic value is not a panacea to these issues; however, it could prove to be a valuable tool in each of these areas. For example, predicting what future researchers will need remains a difficult but necessary function of appraisal. Considering their intrinsic value is one way that archivists and records managers can preserve pertinent information that might otherwise be lost. This study has shown that the application of intrinsic value is not intended to be exclusive of other forms of appraisal. Instead, it is applied complementary to other appraisal criteria and serves best as a safety net, preventing the loss of records considered to have long-term value. Furthermore, intrinsic value is useful in reducing costs related to saving the original digital information by helping to select only those records where it is necessary to preserve the original electronic bits. Other, less essential records could be immediately converted from digital to a less expensive format including microfilm. Lastly, preserving the original bits of certain record's native formats also addresses potential legal issues where a complete record is required.

Although planning for born digital information has been ongoing for a number of years at the state level, the interviews revealed that these formats have yet to be widely accessioned at the state level. The records professionals interviewed are still grappling with the best ways to approach long-term preservation of electronic records and limitations are being placed on the amount of digital information that falls directly into their custody. As far as appraisal approaches at the state level are concerned, the "media neutral" approach to electronic records was the most conducive environment in which to apply intrinsic value. This approach enables the records professional/archivists to treat digitally produced information the same as traditionally archived material. If defined as

media neutral, e-mail is treated as correspondence, and a website is considered an artifact of the agency that produced it.⁷³

Several issues remain unclear from this study and need further investigation. These include how new records management approaches such as Macro-appraisal will affect the retention of historically valuable materials that researchers will need in order to effectively write histories of present day events, institutions and people. Related to this is how the division between records agencies, some employing non-custodial practices, and archives is affecting what materials are preserved for the long-term. Since this study's scope was intentionally small, a more complete survey of state archives/record agency practices would be useful including how these agencies work together to manage digitally produced information. Additionally, when considering the limited amount of records presently in the custody of these institutions and the amount of electronic information being produced, a future study on intrinsic value should reveal how effective archival strategies are in reducing costs and meeting legal obligations while meeting the evidential and informational needs of users.

Several archival theorists and practitioners have, over the years, considered the application of intrinsic value. As recently as 2001, James M. O'Toole, responding to Nicholson Baker's assault the appraisal and preservation practices of librarians [and archivists], called for "a great deal more study more study on intrinsic value, especially in archival collections."⁷⁴ Because the extent and impact of electronic records on collections has yet to be fully realized, it is not unreasonable to think that the traditional

⁷³The interviews revealed that agency 8 used this approach.

⁷⁴James M. O'Toole, "Do Not Fold Spindle or Mutilate: Double Fold and the Assault on Libraries" *American Archivist*. 393.

material of yesterday that sparked their present debate could soon be extended to a debate over the loss of important born-digital material. In order to reduce this likelihood, there is the need for additional work to be done in applying traditional as well as newer archival techniques to electronic records. Whether these or other, possibly undiscovered, practices provide the answer, does not matter. Instead, there should be an effort towards reducing future outside criticism of the profession by finding practical means of electronic media preservation that balance keeping the right documents with costs of preservation. Like other institutions, state archives will need the support of researchers, practitioners from other fields including information technology, and each other to accomplish these tasks. Finally, users, legislators and the public need to be better educated on the problems associated with digital information management and the important, yet difficult, role that records managers and archivists have in appraising and preserving this information. Until then, funding will remain slim and the potential for harsh judgment by future Nicholson Bakers and an unrealistic public are real possibilities.

Appendix A

Interview Protocol

1. How long has the state been archiving electronic documents?
2. What is the size of your electronic holdings?
3. What types of electronic documents are archived?
4. At what level (series, record group, item, etc.) are decisions usually made about archiving electronic records?
5. Are there legal issues that influence what electronic information you archive?
6. On a larger scale, what are the key factors that go into determining if information in electronic form should be archived?
7. What kind of contextual information found in electronic documents is preserved when a document is archived?
8. To what degree are links or attachments archived?
9. What form are electronic documents received in your archive.
10. Do you print out any electronic information to preserve it? How much?
 Do you feel that this has any impact on the value of the information?
 In your opinion, does this affect the integrity or authenticity?
11. What happens to the original file?
12. Do you migrate documents to preserve them?
 What format are they migrated to? (same as original, paper, microfilm, other electronic format.)
 What changes occur to electronic information during this process? How is this documented?
 In your opinion, does migration affect the integrity or authenticity of a document?
13. If migrated to another format, are the electronic documents also retained in their

original formats after migration?

Explain why or why not?

14. Do you archive copies of original software used to create the electronic documents stored in your archive?
15. Presently, are you considering different ways to archive electronic information? If yes, what are the reasons behind your investigation?
16. Have researchers accessed electronic holdings from your archive?

Appendix B

Consent Form

You are invited to participate in a study directed by Don Chalfant, a graduate student at UNC-Chapel Hill, for completion of a Masters Thesis requirement. The purpose of this study is to learn what elements of an electronic record make it valuable and therefore necessary to archive. There is no risk or benefit involved in your participation in this study. It is your decision as to whether to participate or not. You are able to withdraw from this study at anytime.

The study will be conducted by telephone and will consist of an interview that should take around 30-45 minutes to complete. There is a possibility that you will be requested to participate in a follow-up telephone interview sometime after the initial interview. You will have the option not to participate in any additional interviews.

Your privacy and confidentiality will be maintained at all times. Answers and comments from the interviews will not be linked to specific individuals in the thesis write up, instead a code will be substituted for individual names. Identities of interview participants will not be revealed unless permission is granted from the interviewee. Information gathered from published sources such as state archive web pages will not be treated with the same confidentiality. Any subsequent publication or presentation of the interview will follow the same procedures.

You are welcome to ask questions concerning this study at any time. Any questions before or after the interview can be addressed to Don Chalfant via email at chald@email.unc.edu. Advisor to this study is Dr. Helen Tibbo Associate Professor in the School of Information and Library Science at the University of North Carolina-Chapel Hill.

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