

Records Management Redefined

*From the Backroom to the Boardroom:
Managing Content to Improve Efficiency and Accountability*

Abstract: Not long ago, records management was thought to represent a sleepy side note to the business world. Recently, however, a far different view of the importance of records management has emerged. Headline events have taught corporate leaders that at any given moment the well being of their entire enterprise may depend upon their ability to manage records effectively. They must have the right information on file and must be able to retrieve it at a moment's notice. Capturing, organizing, and intelligently accessing all of this information is recognized as a critical part of doing business. Unfortunately, wanting to properly manage records is not the same thing as knowing what needs to be done. This report is designed to serve as a starting point for business people who require a brief primer on the central issues of records management.

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Introduction: Records management as a business imperative

Once upon a time, records management was considered by many (outside the profession) to represent a sleepy sidenote to the business world. It evoked images of dusty file cabinets tucked away in a backroom that was hard to find and easy to forget. Recently, however, a far different and much more accurate image has emerged. Headline events have taught corporate leaders that, at any given moment, the well being of their entire enterprise may depend upon their ability to manage records effectively. They must have the right information on file and must be able to retrieve it at a moment's notice or face (1) a key competitive disadvantage as well as (2) serious risks—including litigation, regulatory penalties, and adverse impact on market share and valuation.

The records may be traditional (e.g. hardcopy originals of legal documents) or come from one of the many newer data sources such as electronic documents, photographs, engineering drawings, X-rays, video, audio, databases and on and on. Capturing, organizing, and intelligently accessing all of this information "content" is now being recognized as a critical part of doing business. All kinds of organizations and key players within those organizations—right up to the CEO and Board of Directors—are now making records management a top priority.

Unfortunately, wanting to properly manage records is not the same thing as knowing what needs to be done. The following report is designed to serve as a starting point for business people who require a brief primer on the central issues of records management.

Records management redefined: From the backroom to the boardroom

By Randolph Kahn, ESQ. & Barclay T. Blair¹

FACT: An American business icon whose job it is to watch over thousands of publicly-traded companies watches in disbelief as a lack of trust in their records management practices grinds their business to a halt. Clients flee, thousands of employees are terminated, and hundreds of millions of dollars are lost.

FACT: Fearing that yet another corporate citizen may not take its records management responsibility seriously, the SEC imposes an \$800-an-hour monitor on a major public company under investigation. The monitor's task is to ensure that the company does not destroy evidence of its accounting debacle and that it "has developed document retention policies and . . . has complied with these policies."²

FACT: Six months after 9-11, a key federal agency notifies a flight school that two of the 9-11 terrorists have been approved for student visas. The agency admits that their "current system for collecting information is . . . antiquated, outdated, inaccurate and untimely."³

FACT: News of an FDA investigation into "fraudulent record-keeping" at one of the world's largest pharmaceutical companies sends its shares tumbling 14% - to their lowest point in a year.⁴

The records management challenge

*"First, the power of information is in its visibility and thereby its ability to be leveraged, enhanced, and acted upon; and second . . . business-technology managers today have to hold themselves accountable for getting the information out to the places where it can be most effective."*⁵

— Bob Evans, Editor-in-Chief, Information Week, July 1, 2002

Today, more than ever, senior executives and managers in corporate America and government agencies have ample reason to move records management to the top of their agendas. Managers need look no further than the daily headlines to realize that failing to take records management seriously is no longer an option. Organizational accountability depends on it, laws and regulations compel it, shareholders and citizens demand it, and effective business processes require it. Whether it is the FBI admitting that it misplaced documents germane to the Oklahoma City bombing, or a stockbroker deleting email in violation of a court order, it is clear that records management has never been more important or more challenging than it is now.

This paper examines the importance of records management for corporations and government agencies. It also explores the consequences of failing to take seriously the need to update and expand records retention practices to address information technology. Finally, it provides an overview of an approach to records management that can help organizations promote and protect their business and legal interests.

What is records management?

Records management is the application of policies, practices, technologies and other management controls to the information content required to:

1. Support business operations and processes, and
2. Protect legal interests and respond to regulators.

Good records management practices allow information to be easily accessed and reproduced on demand, regardless of location or form. Records management requires that an organization's "treasure trove" of business content, data, records, messages, documents, and so on (collectively referred to here as "information") is managed over time, based upon its intrinsic value. A value-based approach dictates that limited company resources should not be spent managing less valuable information such as drafts, non-records and duplicates, for example. While simply "keeping everything forever" ensures that the information exists, it does not ensure that the right information can be found and produced when needed. Not only does such an approach add time and expense to records management, it may create liability by allowing information to be revealed in the context of litigation that could have been discarded in due course. Furthermore, failing to properly capture, index and store records and other significant business content according to business rules and retention schedules may have the same effect as losing or destroying it. Courts have made clear that "utilizing a system of record keeping which conceals rather than discloses or makes it unduly difficult to locate" information may be the equivalent of destroying records.⁶

While most organizations have programs that address paper records, these same organizations commonly fail to develop similar programs for methodically managing electronic records and other digital information. Organizations spend vast resources on email and other communication systems, but often fail to spend enough to ensure that email records are managed as a business asset. Part of the problem is that the definition of a "business record" in the digital world is rapidly changing and may require a new approach to records management. An approach that reflects the depth of an organization's reliance upon information technology and promotes both business and legal interests. An approach that reflects today's business reality—that organizations conduct business a multitude of ways using a multitude of technologies and communications devices that make records management challenging.

Failing to address these challenges exposes organizations to unnecessary risk, hampers regulatory and policy compliance, breeds mistrust among investors and citizens, and makes business processes (such as CRM and transaction processing) less productive, so there are more than adequate incentives to get it right up front.

What needs to be managed has changed

*"The world's total production of information amounts to about 250 megabytes for each man, woman, and child on earth. It is clear that we are all drowning in a sea of information. The challenge is to learn to swim in that sea, rather than drown in it. Better understanding and better tools are desperately needed if we are to take full advantage of the ever-increasing supply of information. . ."*⁷

Every minute, a typical organization's servers log thousands of network interactions, their databases record gigabytes of transaction data, and their employees generate millions of email messages. Records management today means taking control of not only obvious digital content like word processing documents and spreadsheets, but also the volumes of "non-typical" data generated by instant messaging (IM), email, messaging pagers, personal digital assistants (PDAs), discussion databases, and so on. In fact, with 610 billion email messages sent each year worldwide,⁸ and 2.2 billion instant messages sent each day,⁹ it is increasingly likely that an email or instant message will be needed to manage an account, prove the existence of a contract, document employee activities, or generally promote and protect an organization's business and legal interests.

Management of paper documents and records is still critical, but it is only part of the challenge. Even when records are retained in paper form for legal or regulatory reasons (e.g., documents related to real estate, wills, and so on) organizations often depend on digital technology for indexing and cross-referencing to improve searchability and access. Meanwhile, digital information is becoming more and more prevalent. In fact, according to the UC Berkeley study quoted above, over 93 percent of the information produced in 1999 was in digital format, and printed documents comprised only .003 percent of the total amount of information worldwide.

Records management policies that fail to reflect the importance of all forms of digital information are clearly inadequate. In addition, executives and managers should take an active role in ensuring that records management policies are enforced throughout the organization. The mere existence of a policy is not enough. A recent survey concluded that only 13% of the employees in the surveyed company were properly retaining email, despite the existence of an email policy, a training program and other efforts designed to promote good records management practices.¹⁰

Although reliance on information technology may have changed the “face of business,” it has not changed the need for organizations to apply “tried and true” methods to the management of all significant business content.

Central business purposes for records management

“Because these [electronic] records document essential government functions and provide information necessary to protect government and citizen interests, their proper management is essential for ongoing government activities.”

— United States General Accounting Office

While the look and feel of business records may have evolved, the reasons for their retention and management have not. Digital business content and records must be captured, indexed and stored, and must remain accessible from creation to disposal. These activities serve several business purposes, as outlined below.

Documenting business events and transactions

Organizations depend on electronic records and digital information to provide a trustworthy “memory” of their important business activities that is relied upon for decision-making, customer service, analytical, financial, forecasting, reporting and historical purposes. Fast and effective access to digital information makes business happen “faster, better, cheaper” and serves broad business goals and strategies. Information that is not properly managed cannot be leveraged nor acted upon. The implementation of practices and technology that comply with industry standards like the U.S. Department of Defense DoD 5015.2-STD¹¹ can help organizations avoid these pitfalls.

Promoting operational effectiveness

The proper management of digital business content allows business to occur in an effective, orderly, efficient, and accountable manner, and enables employees to focus on core functions by reducing the time and effort required to locate and produce information. Proper management procedures also reduce storage costs by eliminating duplication and excess.

Compliance with laws and regulations

Many laws and regulations mandate that electronic records be retained for record keeping, filing, reporting, and auditing purposes. Furthermore, whether it is an FDA¹² regulation stipulating controls for trustworthy electronic records, or an NASD¹³ rule regarding the retention of email, regulators expect electronic records to be managed with the same care and control as their paper counterparts, and expect them to be readily accessible.¹⁴

Compliance with organizational policies and industry standards

Company policies addressing employee benefits, confidentiality, and other Human Resources issues require the management of electronic information. Similarly, industry standards like the ISO family of quality management standards and guidelines also require strict records management practices. The records

management principles guiding internal policies and industry standards do not change merely because electronic processes are used.

Protecting legal interests

As the courts have stated it, “[c]omputers have become so commonplace that most court battles now involve discovery of some type of computer-stored information.”¹⁵ Courts and regulators expect organizations to produce authentic and trustworthy records, regardless of their format. Wrangling over finding and producing digital information that has been improperly managed can cause litigation to drag on for years, costing millions of dollars, requiring expensive forensic experts, and wasting countless employee hours.

The economics of records management

*“Databases frequently turn into information dumps, teeming with poorly classified or outdated information.”*¹⁶

— “Growth at McKinsey Hindered Use of Data,” Wall Street Journal May 20, 2002

Proactive records management not only reduces operational costs and provides opportunities to improve and expand business operations, but it also protects legal interests. There is already a long line of cases where courts have imposed onerous discovery rulings that cost litigants millions of dollars because producing the required digital information was so difficult. Without a proactive and methodical approach to managing electronic records, broad discovery orders may require specialized search tools, forensic experts, reformatting of storage media and other expensive techniques that can cost in excess of \$1 million, as was the case in *Linnen v. Robins*.¹⁷ Legal battles over digital business content can take on lives of their own, as in the case of *Gates Rubber Co. v. Bando Chemical Indus., Ltd.*,¹⁸ where the litigation dragged on for years while the parties fought over allegations that relevant electronic records were destroyed.

Enterprise applications such as Business Intelligence (BI) and Customer Relationship Management (CRM) are designed to help an organization leverage its data in order to make better decisions, cut costs, identify new business opportunities, and improve and extend customer relationships. However, these applications depend upon a solid foundation of records management. While the promise of a “360 degree view” of the customer relationship offered by CRM is attractive enough to entice organizations to spend \$19 billion over the next three years,¹⁹ CRM has a notoriously high implementation failure rate—as high as 75%, according to some analysts.²⁰ At least part of the reason is a failure to ensure that the required data is properly managed and made accessible. According to the Yankee Group, “[t]he biggest mistake is that companies don’t spend a lot of time or energy on the data. Without the data the apps may be great, but they don’t work.”²¹ If a highly respected consulting firm with expertise in the area can get it wrong, as alluded to in the Wall Street Journal quote above, it is wrong to assume that any organization will get it right without proper planning and sufficient investment.

Unmanaged data, unmanaged risk and erosion of value

*“I don’t have time to be paying attention to the output our computer systems are generating.”*²²

— CIO of United Airlines

*“In most firms, the records management group had little interaction with upper management, let alone corporate IT departments. The critical nature of records management tasks and requirements were generally not well-understood by the organization.”*²³

— Doculabs Special Report on Records Management Systems

Established organizational and governance structures may be inadequate to fully address today's records management challenges, especially given that reliance on digital information continues to grow unabated. One need only look to predictions for the database software market for evidence that the electronic records management problem may get worse before it gets better (i.e., the market is expected to grow from \$8.8 billion in 2002 to \$20 billion in 2006).²⁴

The General Accounting Office recently reported that the electronic records management guidance of the National Archives and Records Administration (the country's official recordkeeper) "is inadequate in the current technological environment of decentralized systems producing large volumes of complex records."²⁵ Take little comfort that even the "experts" are grappling with these issues, as the consequences of failure are undeniably profound. Failing to apply proper controls to digital business content results in unmanaged organizational risk and reduces transparency and accountability, which the last year has proven can slash market valuations and irreparably damage individual and organizational reputations.

Despite these facts, mismanagement of digital information persists. Although organizations increasingly seem to realize that their electronic records are a business asset that can be leveraged to improve business processes, most have yet to fully address the IT department's records management role. While IT departments own the systems that house digital business content, generally they do not take responsibility for the "lifecycle" management of this content in the same way that records management departments have for paper records. As a result, routine processes designed to serve IT needs, such as regularly overwriting backup tapes or purging data, can in fact generate substantial liability, such as in the case of Applied Telematics v. Sprint.²⁶ In this case, a litigant was penalized for "innocently" purging records to make room for new ones, even though the records were relevant to the litigation. This case underscores the need for having special mechanisms to ensure that IT departments do not make storage decisions that create liability. In any event, IT departments may need to play an expanded role in records management, whether by shifting departmental responsibilities, implementing technology with legal issues in mind, or otherwise.

Approaches to records management

*"You're just as responsible as the other executives. You can't excuse yourself by saying, 'I'm just IT.'"*²⁷

— CIO of Ryder System, Inc.

Each organization is unique and has different needs and priorities. As such, there is no single solution to the records management conundrum that fits all organizations. However, it is clear that proper management should be a priority, and that there are several concepts and activities that are required in every organization, as outlined in this section.

Manage and retain by value, not by format

A fundamental goal of any records management program is the identification and proper retention of required information. An obligation to retain or dispose of information does not change simply because the information is in electronic form. However, many organizations put themselves at risk by recycling storage media and by purging retired computer systems without considering the megabytes of potentially significant business content that may be lost in the process.

Significant digital business content is created by a multitude of software applications and stored on a multitude of hardware devices. In many cases, if the same content were created in paper form, it likely would be retained and managed in accordance with records management policies, assuming the organization had such policies and adhered to them. Consequently, only by managing digital information according to its legal and business value—and not according to its method of creation—can organizations ensure that they are acting in their best interests. In other words, every piece of information in an organization is potentially relevant, from the most obscure data file generated by a digital sensor, to an electronic contract in a word processing document.

Not surprisingly, recent accounting and reporting debacles have generated new found interest in records retention policies and disposition schedules. Retention schedules based upon legal and business considerations enable organizations to dispose of e-records in the ordinary course of business, without raising the ire of courts and regulators. However, the current reality is that most organizations are good at applying such policies to paper records, but they fail miserably when it comes to digital information. The IT department often makes decisions about “what data shall live and what data shall die” without regard to overarching legal and regulatory issues. As the Applied Telematics case discussed earlier indicates, such actions may create substantial liability.²⁸

Manage in electronic form

“Even today, most textual information is ‘born digital’ . . . digital information is inexpensive to copy and distribute, is searchable, and is malleable.”²⁹

Digital business content often contains information that is lost or significantly altered when it is reduced to printed form. For example, digital documents may contain metadata (i.e., “data about data”) indicating title, author, reviewers, edits, and storage locations, among other things. While such metadata enables document management applications, it may also be crucial for determining a document’s authenticity or “chain of custody.” Unfortunately, this important information may be lost when the document is printed and the original digital file is destroyed. Courts and rules of evidence have responded to these facts by allowing (and in some cases requiring) parties to a dispute to have access to digital “live” versions of electronic records despite the fact that “complete” paper versions were already available.

In Public Citizen v. John Carlin,³⁰ the court asserted that records created electronically should remain in electronic form because there was information available in electronic form that was not available when printed to paper, and used the example of spreadsheet calculation to demonstrate the point. While the case was overturned for unrelated reasons, there are certain regulators, such as the FDA, which believes that “once electronic, always electronic” is the only way to retain such records.³¹ Further, there are many business benefits to managing digital content in its original form, such as ease of searching, retrieval, integration and dissemination.

Consequently, organizations should manage digital content in its original format whenever practical or required.

Manage from creation to disposition

Organizations can only truly appreciate the challenge of managing records after viewing it within the context of an information management lifecycle—a holistic viewpoint that considers information as having a living, breathing existence with a beginning, middle and end, and, like the human lifecycle, all the messy stages in between.

This section identifies the five basic phases within the information management lifecycle, and their concomitant records management challenges and solutions.

Capture: Just because it seems transitory does not mean it should not be properly managed.

Most electronic information comes into existence without prior thought as to how it will be identified, retained, protected, and made accessible in the future, when in fact such considerations should be an inherent part of any technology purchasing and implementation cycle. It is much easier and cheaper to build a new system correctly from the outset than to break old habits and modify an entrenched installation. In addition, employees should be trained to identify and retain records that they generate directly, and their conduct in this regard should be audited.³²

Index: Having it, but not being able to find it, is like not having it at all.

While the content of a paper document is obvious “on its face,” viewing the contents of a digital document depends on software and hardware. Further, the contents of digital storage media cannot be easily accessed without some clue as to its structure and format. Consequently, the proper indexing of digital content is fundamental to its utility. Without an index, retrieving digital information is expensive and time consuming, if it can be retrieved at all. In a recent case, a company could not search imaged medical claims records because the wrong metadata had been used in the indexing process, and they were therefore required to open and examine each record individually at great expense.

Store and protect: Backup alone is not retention.

Creating highly-available backups of “mission-critical” digital information supports disaster recovery and business continuance purposes, and is one element of an overall information management strategy. However, organizations should not exclusively rely on these procedures for records management. Backup systems are generally designed to minimize the storage burden, not to enable easy retrieval of individual records. Consequently, the cost of information retrieval from backup systems can be very high. In one case, experts estimated the cost of reviewing email contained on twelve monthly backup sessions to be at least \$99,000 and take 660 hours.³³

In addition, the courts have been willing to impose arduous requirements on litigants to access stored electronic records. For example in re Brand Name Prescription Drugs Antitrust Litigation,³⁴ the court ordered one of the parties to develop a special computer program to extract data from nearly 30 million pages of email stored on backup tapes.

Retention of backup media should also align with an organization’s overall records management practices. For example, if an organization’s policy requires disposing of certain e-records pursuant to a retention schedule, then backup of those same e-records should cease to exist contemporaneous with disposition of the official copy and not be left to linger in an off-site storage vault indefinitely.

Access: Retention is useless without accessibility.

Capturing, indexing and storing digital business content serves little purpose if it is not readily accessible when required. Too often organizations implement systems that may improve business processes but hamper the accessibility of significant business content, a fact that the courts and regulators may be unwilling to overlook.

In 2000, it was reported in Florida that county e-records were not uniformly available as required by public records laws.³⁵ County officials admitted that they were violating the law by failing to produce requested e-records, and asserted that it would take hundreds of hours and thousands of dollars that they had not budgeted for to produce them. Instead, they “suggested that residents interested in public officials’ email would need to sit at each official’s computer and manually check the e mail received.”

Disposition: Everything cannot be retained forever.

Just like paper records, electronic records need to be disposed of at the end of their useful life, in conformance with predefined retention rules. Proper disposition eases the records management burden by reducing storage volumes and controlling potential sources of future liability and discovery expense. Disposition should be done in the “ordinary course of business,” and documentary evidence kept regarding the salient details of the disposition process (e.g., date, parties involved, process used). Organizations should have storage media containing sensitive information “cleaned and sanitized” using appropriate techniques, such as those outlined by the US Department of Defense DoD 5220.22-M standard,³⁶ to ensure that data cannot be recovered using advanced forensic techniques.

Conclusion

Records management is not a luxury that only “the few” can afford. Rather, it is a discipline that must gain greater visibility and traction in corporations and government agencies, not only in the boardrooms, but also on the ground floor. While recent headlines have compelled many organizations to revisit their records management approach, organizations should ensure that records management becomes a long-term organizational priority, not merely a short-term reaction to current events. Organizations should increasingly view records management as a strategic component of business success, not simply a tactical, cost-driven activity.

Records management not only plays a major role in protecting legal interests, but it also promotes the interests of shareholders and citizens by increasing organizational transparency, accountability, and efficiency. There is no good excuse for failing to harness information and there every incentive to get it right. Information is the lifeblood of business. Allowing it to flow uncontrollably, or cease to exist through mismanagement, is tantamount to organizational suicide.

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Notes

¹ This report was drafted by Randolph Kahn, ESQ. & Barclay T. Blair of Kahn Consulting, Inc., at the request of Legato Systems. Questions and comments can be directed to Mr. Kahn at 847-266-0722 or info@KahnConsultingInc.com. This report and any information contained in it should not be considered a legal opinion or professional advice. It is advisable for an organization with any specific questions or concerns to consult with legal counsel.

² "Federal Judge Appoints WorldCom Monitor," Reuters, July 3, 2002.

³ "Six months after Sept. 11, hijackers' visa approval letters received," CNN.com, March 13, 2002, online: <http://www.cnn.com/2002/US/03/12/inv.flight.school.visas/> (date accessed July 20, 2002).

⁴ "Johnson & Johnson Faces FDA Probe," Washington Post, July 19, 2002, online: <http://www.washingtonpost.com/wp-dyn/articles/A31010-2002Jul19.html> (date accessed July 21, 2002).

⁵ "Business Technology: Exposing The Shell Game," Bob Evans, Information Week, July 1, 2002, online: <http://www.informationweek.com/story/IWK20020630S0010> (date accessed July 21, 2002).

⁶ *Kozlowski v. Sears Roebuck & Co.*, 73 F.R.D. 73 (D.Mass.1976).

⁷ Lyman, Peter and Varian, Hal R., "How Much Information," 2000, online at: <http://www.sims.berkeley.edu/how-much-info> (date accessed July 20, 2002). (Hereafter referenced as "Lyman").

⁸ Lyman.

⁹ IDC estimates for 2002.

¹⁰ Monday, Ann and Rudge, Jamie, "Email Policy Enforcement: Choice or Chance—A Case Study at an Australian Winery," University of South Australia School of Accounting and Information Systems.

¹¹ DoD 5015.2-STD available online at <http://jtc.fhu.disa.mil/recmgmt/index.html> (date accessed July 30, 2002).

¹² See, for example, Food and Drug Administration (FDA) regulations 21 CFR Part 11.

¹³ See, for example, National Association of Security Dealers (NASD) Conduct Rule 3110 dealing with books and records, and also Securities and Exchange Commission (SEC) SEC Rules 17 a-3 and 17 a-4.

¹⁴ For example, regulators like the SEC often provide short timeframes for complying with requests for electronic records. In addition, the EPA has established very specific and stringent guidelines for e-records and has made clear that retention of e-business content is not arbitrary for those organizations subject to its regulations.

¹⁵ *Bills v. Kennecott Corp.*, 108 F.R.D. 459, 462 (D. Utah 1985).

¹⁶ "Growth at McKinsey Hindered Use of Data," Wall Street Journal May 20, 2002.

¹⁷ *Linnen v. Robins*, 1999 WL 462015, 10 Mass.L.Rptr. 189 (Mass Super. Court, 1999).

¹⁸ 167 F.R.D. 90 (D. Colo. 1996).

¹⁹ Potter, Fenella, "Betting on CRM? How to Achieve Best Odds," IDC.

²⁰ "Is CRM all it's cracked up to be?" CNET News.com, April 3, 2002, online: [http://news.com.com/2100-1017-](http://news.com.com/2100-1017-874356.html?legacy=cnet&tag=lthd)

[874356.html?legacy=cnet&tag=lthd](http://news.com.com/2100-1017-874356.html?legacy=cnet&tag=lthd) (date accessed July 20, 2002).

²¹ Ibid.

²² "Where Was IT?" Information Week, July 1, 2002, online at <http://www.informationweek.com/story/IWK20020630S0014> (date accessed July 20, 2002).

²³ Doculabs Special Report on Records Management Systems (First Edition (1.1) 1998).

²⁴ Reports from Gartner Group and IDC, May 2002.

²⁵ "Information Management: Challenges in Managing and Preserving Electronic Records, Highlights of GAO-02-586, a report to Congressional Requesters," United States General Accounting Office, June 2002. Available online at <http://www.gao.gov>.

²⁶ *Applied Telematics v. Sprint*, 1996 US Dist. LEXIS 14053 (D. Pa.).

²⁷ "Where Was IT?" Information Week, July 1, 2002, online at <http://www.informationweek.com/story/IWK20020630S0014> (date accessed July 20, 2002).

²⁸ There continue to be many examples where organizations fail to apply existing practices to the digital world. For example, in a case involving an Ohio police department, the department destroyed paper records, in the ordinary course of business at the end of the retention period, pursuant to its retention schedule. However, the electronic versions of the same records, to which the retention schedule were apparently not applied, lived long after the discarded paper versions. Thereafter, someone unearthed the electronic versions and produced them in a police brutality case precipitating yet another lawsuit for failure to follow the retention schedules. No one destroyed the e-versions at the end of the retention schedule as policy required

²⁹ Lyman.

³⁰ *Public Citizen v. John Carlin*, 1997 U.S. Dist. Lexis 16993 (D.D.C. 1997).

³¹ For example, Paul J. Motise of the FDA addressed this question in a recent Q and A, as quoted below from "Part 11 Conference: Questions and Answers," April 5, 2001, available online: <http://www.pair-ca.org/pages/P11QA.html> (date accessed July 20, 2002).

"Q. Can electronic records be archived as paper printouts?"

"A. No. We explained this very clearly in the final rule printout. Electronic records must be archived in electronic form. Keep in mind that part 11 requires you to be able to generate for us electronic copies of electronic records; you couldn't make suitable e-copies if all you had was paper . . ."

³² This is especially important given that individual office workers may generate the majority of business content. For example, according to Lyman, "original documents created by office workers are more than 80% of all original paper documents," and "roughly 55% of the total [hard drives in existence] are installed in single-user desktop computers."

³³ Aragon, Lawrence, "E-Mail is Not Beyond the Law," PC Week, October 6, 1997.

³⁴ 123 F.3d 599, 609(7th Cir. 1997).

³⁵ "County Can't Deliver Email to Public," St. Petersburg Times, September 19, 2000.

³⁶ DoD 5220.22-M, otherwise known as the "National Industrial Security Program Operating Manual (NISPOM)," available online: <http://www.dss.mil/isec/nispom.htm> (date accessed July 20, 2002).