

Transition From the Analog to the Digital Era: Coping With Loss of Archival Information in Israel

ILANA BUDOWSKI, DR.

Director- Current Records Department Israel State Archives, The Prime Minister's Office Qiryat Ben-Gurion
Jerusalem 91950
e-mail: ilana@archives.gov.il; ilanabudowski@gmail.com

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ABSTRACT

The digital era allows substantial breakthroughs and opportunities for innovative and cost-effective developments relating to the creation, updating, dissemination, storage and retrieval of archival material of various sorts. It poses, on the other hand, extreme difficulties leading to substantial permanent loss of current archival material, especially in the intermediate period till international standards for electronic records management systems (ERMS) are agreed upon and widely adopted and implemented, using hardware, software and firmware answering to those standards. The physical and digital archival material differ in the platform in which they are housed and that has repercussions regarding the difficulties the electronic data has in providing the proper long term responses to the demands of archival material, demands being met by the physical material (e.g. paper). The digital media, as opposed to the physical one, is sensitive to intentional and unintentional manipulations and changes; it is shorter living due to fast ageing of hardware and software- being replaced by newer and more advanced technologies. Material creators usually lack the professional knowledge and awareness as to the necessity of setting up and using a specific electronic archival documents management system during this interim period which turns to be a major difficulty. Most material creators put their trust in the computing system without being aware, for example, to the importance of using a filing plan- which are the basis for the efficient organization of archival records that are necessary to support the bureaus' actions and retrieval of its records. The current computerized systems do not provide the basic demands needed of a record management system. One cannot sufficiently provide protection of material from changes; proper auditing to ensure long term authenticity of the record; long term retrieval; safekeeping according to pre-determined safekeeping periods. As these processes aren't being handled in a professional correct way- there is a massive daily loss of valuable archival material that would be impossible to retrieve in the future and the most current and urgent example demanding immediate attention is of emails which people tend not to save. Coping with the massive loss of archival material taking place nowadays demands taking immediate auditing and harm-reduction actions as well as attending to long term responses. This in turn calls for the raising of awareness of key senior figures as to the importance of proper electronic file management and the need to update and implement and to fund the necessary policy and its implications, such as recruitment of professional archival and computer specialists, developing proper hardware and software and disseminating it.

La transizione dall'era analogica a quella digitale: far fronte alla perdita di informazioni archivistiche

SINTESTI

L'era digitale permette sostanziali progressi ed opportunità per innovativi e costosi sviluppi riguardo la creazione, l'aggiornamento, la disseminazione, la memorizzazione ed il recupero di materiale archivistico di varia natura. D'altro canto, pone gravi difficoltà relative alla sostanziale e permanente perdita di materiale archivistico corrente, specialmente nel periodo intermedio in cui standard internazionali vengono concordati ed universalmente adottati e messi in pratica, usando firmware, hardware e software in risposta a tali standard. La differenza fra materiale archivistico fisico e digitale sta nella piattaforma in cui è alloggiato, che ha ripercussioni riguardanti le difficoltà dei dati elettronici a provvedere ad appropriate risposte a lungo termine alle richieste di materiale archivistico, richieste invece soddisfatte dal materiale fisico, ossia cartaceo. Il media digitale, all'opposto di quello fisico, è sensibile alle manipolazioni ed ai cambiamenti intenzionali e non intenzionali ed è di minor vita a causa della rapida obsolescenza di hardware e del software, rimpiazzati da più nuove e più avanzate tecnologie. La maggior difficoltà durante questo periodo di interim è la mancanza di sapere professionale la consapevolezza degli enti produttori della necessità di impostare ed utilizzare uno specifico sistema di gestione del materiale archivistico elettronico. La maggioranza degli enti produttori si fida della tecnologia digitale senza essere consapevole ad esempio dell'importanza di utilizzare un titolario, che è la base di un'efficiente organizzazione dei

documenti archivistici necessaria a sostenere le attività dell'ufficio ed il recupero dei suoi dati. I sistemi computerizzati correnti (ad esempio server, hard disk, Windows, ecc.) non suppliscono alle richieste basilari necessarie ad un sistema di gestione documentale. Non è possibile fornire sufficiente protezione del materiale dai cambiamenti; una corretta verifica volta ad assicurare l'autenticità del dato sul lungo termine; una rintracciabilità a lungo termine; conservazione basata su periodi predeterminati di conservazione. Gli enti produttori tendono ad ignorare l'uso di titolari ritenendo che il sistema elettronico riuscirà comunque a recuperare ciò che serve – utilizzando parole chiave od anche una singola parola in un documento. Dato che tali processi non sono utilizzati nel corretto modo professionale si ha una grossa diuturna perdita di prezioso materiale archivistico che sarà impossibile recuperare nel futuro, e l'esempio più corrente ed urgente è quello delle e-mail, che la gente tende a non conservare. Far fronte a questa massiccia perdita di materiale archivistico che avviene al giorno d'oggi richiede un'immediata verifica ed azioni che riducano il danno, così come por mano a risposte a lungo termine. Ciò esige l'innalzamento della soglia di attenzione delle figure chiave all'importanza di una corretta gestione del documento digitale, ed al bisogno di un aggiornamento e di un incremento, ed al finanziamento delle necessarie politiche e delle loro implicazioni, come l'assunzione di archivisti professionisti e di specialisti informatici, che sviluppino e disseminino hardware e software appropriati.

Tranzicija iz analogne v digitalno ero: obvladovanje izgube arhivskih informacij

IZVLEČEK

Digitalna era daje precej priložnosti za inovativen in stroškovno učinkovit razvoj, ki se nanaša na ustvarjanje, posodabljanje, širjenje, shranjevanje in ponovno uporabo arhivskega gradiva različnih vrst. Na drugi strani pa to pomeni izjemne težave, ki povzročajo znatno in trajno izgubo novodobnega arhivskega gradiva, še posebej v vmesnem obdobju, v času, preden bodo mednarodni standardi dokončno sprejeti in splošno uvedeni, in preden se bo uporabljala strojna in programska oprema, ki bo podpirala strokovna opravila, izvedena na osnovi sprejetih standardov. Razlika med klasičnim in elektronskim arhivskim gradivom, je v obliki nosilca, na katerem se nahajajo informacije. Pri elektronskem arhivskem gradivu namreč obstajajo težave v zvezi z zagotavljanjem ustrezne dolgoročne hrambe gradiva, na katere je stroka pri klasičnem arhivskem gradivu že našla ustrezne rešitve. Digitalni mediji so za razliko od klasičnih, občutljivi na namerne in nenamerne manipulacije in spremembe, imajo zaradi hitrega zastarevanja strojne in programske opreme krajšo življenjsko dobo, zato se neprenehoma nadomeščajo z novejšimi in bolj tehnološko naprednimi tehnologijami. Največja težava v tem vmesnem obdobju, je pomanjkanje strokovnega znanja in zavesti ustvarjalcev arhivskega gradiva, glede potrebe po namestitvi in uporabi posebnih arhivskih sistemov za upravljanje z gradivom. Večina ustvarjalcev gradiva zaupa v računalniške sisteme, ne da bi se zavedali, na primer, na pomen uporabe klasifikacijskih načrtov, ki so osnova za učinkovito organizacijo arhivskega gradiva in ki so potrebni za podporo delovanja institucij ter iskanje ustrezne shranjene dokumentacije. Trenutni računalniški sistemi (npr. strežniki, trdi diski, Windows itd), ne zagotavljajo osnovnih zahtev, potrebnih za sisteme za upravljanje z gradivom. V teh primerih ne moremo v zadostni meri izvajati varstva gradiva pred spremembami, pravilno zagotavljati dolgoročne verodostojnosti zapisov, dolgoročne uporabe in hranjenja gradiva v skladu z vnaprej določenimi roki hrambe. Ustvarjalci gradiva pogosto ignorirajo uporabo klasifikacijskih načrtov zaradi prepričanja, da bo računalniški sistem sam vedel, kako ponovno, s pomočjo ključne besede ali cele besede v datoteki, pridobiti ustrezne informacije. Ker ti procesi niso izvedeni strokovno pravilno, prihaja do velikih dnevnih izgub dragocenega arhivskega gradiva, ki ga v prihodnosti ne bo mogoče ponovno pridobiti. Najlepši primer je e-pošta, ki je ljudje ne hranijo. Kosanje z velikimi izgubami sodobnega arhivskega gradiva, zahteva takojšnjo revizijo in uvedbo ukrepov za zmanjševanje škode, kot tudi ustrezne odzive na zahteve po dolgoročni hrambi. To pa zahteva dvig zavesti na ključnih visokih položajih, predvsem glede pomembnosti pravilnega upravljanja z elektronskimi dokumenti ter posodobitve in izvajanja financiranja potrebne razvojne politike, ki vključuje zaposlovanje strokovnih arhivskih in računalniških strokovnjakov, razvoj ustrezne strojne in programske opreme ter razširjanje tega znanja.

ינויכרא עדימ לש דבוא מע תודדומתה: ילאטיגיידה דיעל יגולנאה דיעהמ רבעמה

ריצקת

רוזחאו הרימש, הצפה, הריציל סיעגונה תילכלכ מייאדו מיתועמשמ מיתותיפל תויונמדזהו דרד תוצירפ רשפאמ ילאטיגיידה דיעה ינויכרא רמוח לש דעל דבואל לעופב תוליבומה רתויב תושק תועב פיצמ דב דב דב, מיגוס לש בחר וווגממ ינויכרא רמוח לש מהילע הבחר המכסהו תויונרטקלא תומושר לוהינל מיימואלניב מיטרדנטס תעיבקל דע מייניבה תפוקתב דהוימב, בר יוושכע עבונ -ינויכרא רמוחל יזיפ ינויכרא רמוח יב לדבהה. ולא מיטרדנטס לע ונעי רשא הנכותו הרמוח, ההשוק ינעמ תעמטהלו, יוצמה רמוחה תמועל ויתורטמל חוות דורא הנעמ סויכ תתל ינויכרא רמוחה לש מיישקה לע תוכלשה דכלו נכוש אוה וילע עצמהמה והו מייארקא וה מיינישיל השיגר, תרחא תיזיפ הידמ וא תיריינה הידמה הנושב, תינויכרא רמוחה הידמה. ריינ תמגוד יזיפ עצמ לע תומדקתמו תושדח תויונרטקלא ותפלהה הנכותה וא/ו הרמוחה לש הרימה תונשייתה לשב רתוי רצק הלש מייחה דרווא; מיינודו רמוח לוהינבו המקבה דרוצל רמוחה ירצוי לש תקפסמ תועדומו יעוצקמ עדי רדעיה אוה מייניבה תפוקתב ירקיעה ישוקה; רתוי מיעדומ תויהל ילבמ תבשחוממה תכרעמב חסבמ מיש רמוחה ירצוי בור. תומושר לוהינל תידועיי תינויכרא רמוחה ינויכרא דרשמה תולועפב דומתל ידכ תיבטימ הרוצב דרשמה תומושר ויגוראל סיסב מיווהמה קוית תוחתפמב שומישה תובישחל לשמל

תושירדל הנעמ תונתונ נניא (תונולח ןוגכ הדובע תוביבס; םיחישק םיקסיד; םיתרש) םויכ תובשחוממה תוכרעמה. ויתומושר רוזחאבו תא םיחיתבמה הרקב יכילהת ליעפהל ןתינ אל; םייוניש ינפמ רמוחה לע וגהל ןתינ אל. תומושר לוהינל תכרעמ לכמ תויסיסבה הקזחאה תופוקתל מאתהב רמשנ רמוחהש אדוול ןתינ אל; ןמז ךרואל תומושר רזחאל ןתינ אל; ןמז ךרואל (תויטנתוא) תוירוקמה חתפמ תולימ תועצמאב רזחאל עדת תינורטקלאה תכרעמה יכ הנומא דותמ קויתה תוחתפממ סלעתהל מיטונ רמוחה ירצוי; ועבקנש רקי ינויכרא רמוח לש ןדבוא םוי ידימ שחרתמ הנוכנו תיעוצקמ הרוצב מילהנתמ מירבדה ןיאש רחאמ. ךמסמב תודדוב םילימ ףא וא הרמושל מיטונ אל רשא לאודב תלהנתמה תבותכת הניה -רתויב תרעובהו תיוושכעה אמגודהו -ורזחאל היהי ןתינ אל רשא ךרע ברו הנעמ נתמל ןכו סיקזנה רועזמלו הרקבל תוידיימ תולועפ תטיקנ תבייחמ, םויכ שחרתמה ינויכראה עדימה ןדבוא סע תודדומתהה תוינידמ תעיבקלו תינורטקלאה תומושרה לש ןוכנה לוהינה תובישחל ריכבה גרדה לש תועדומ תאלעה בייחמ הז רבד. חוות ךורא לש הכימת מיבייחמ ולא מיאשונ; יבושחמה אשונב והו ינויכראה אשונב ןה ןמוימו יעוצקמ מדא חכ סויג, ןתעמטהו אשונב מילהנו םישרדנה םייונישה בוצקת לע מינוממה לשו ריכבה גרדה.

Introduction

The digital era allows substantial opportunities for innovative and cost-effective developments relating to the creation, updating, dissemination, storage and retrieval of archival material of various sorts. It poses, on the other hand, extreme difficulties leading to substantial permanent loss of current archival material. This relates especially to the intermediate period till international standards for electronic records management systems (ERMS) are agreed upon and widely adopted and implemented, using firmware, hardware and software answering to those standards.

The difference between physical and digital archival material is in the platform in which it is housed. That has repercussions regarding the difficulties the electronic data has in providing the proper long term responses to the demands of archival material, demands being met by the physical e.g. paper material. The digital media, as opposed to the physical one, is sensitive to intentional and unintentional manipulations and changes; it is shorter living due to fast ageing of hardware and software being replaced by newer and more advanced technologies.

The major difficulty during this interim period is the lack of professional knowledge and awareness of material creators as to the necessity of setting up and using a specific electronic archival documents management system. Most material creators put their trust in the computing system without being aware, for example, to the importance of using a filing plan- which are the basis for the efficient organization of archival records that are necessary to support the bureaus' actions and retrieval of its records.

The current computerized systems (hardware and software) in Israel do not provide yet the basic demands needed of an electronic record management system. One cannot sufficiently provide protection of material from changes, proper auditing to ensure long term authenticity of the record, long term retrieval and safekeeping according to pre-determined safekeeping periods.

One of the major issues demanding immediate attention is electronic records management of emails- which will be the foci of this article.

Definitions

(Adapted from UN - ARMS):

Record: any data or information, maintained by the State as evidence of a transaction

Electronic record: a record that is information and communication technology (IT) data, and which has:

1. *structure*: the format of the electronic record and any links to attachments or other related documents;
2. *content*: the information in the structure of the electronic record conveying the evidence of the transaction; and
3. *context*: the information documenting the source in terms of the transaction to which it relates, creator, date, security and access, language, disposal, format etc. This relates to the electronic record which is normally separated in the structure from the content

Email or electronic mail records: any messages created, sent or received within an email system that are required by the Organization to control, support, or document the delivery of programs, to carry out operations, to make decisions, or to account for activities

Recordkeeping: making and maintaining complete, accurate, and reliable evidence of business transactions in the form of recorded information.

A records system (or recordkeeping system): an information system which captures manages and provides access to records through time.

An electronic document management system (EDMS): an automated system which provides creation and management controls for electronically created documents including electronic mail messages

An electronic records management system (ERMS): an information system which captures and stores electronic records, including email messages as official records

e-mails and record-keeping

In Israel as in all other highly computerised countries, the email has become the major tool for conveying information, replacing or supplementing phone calls, faxes and hand written notes.

Unfortunately, their creators and receivers as well as other personnel responsible for record management are usually unaware as to the limitations of the current email management systems. They are also unaware of the dangers of huge loss of critical information (past and future) and to the importance of regarding and evaluating them as records that need to be managed.

Policy and guidelines for proper email creation and record management is a necessity, and such guidelines are being, belatedly, constructed.

The need for ERMS rather than EDMS

Document management known as EDMS (Electronic Document Managing System) is an automated system used to support the creation, use and maintenance of electronically created documents for the purposes of improving an organization's workflow" (NAA, 2004b). Records Management is oriented to controlling Records as authentic, corporate records for accountability, business use and historical use throughout the records life cycle as well as destroying records as soon as it is allowable. ERMS has, therefore, the necessary additional functions lacking in the EDMS such as a method of declaration - a mechanism to define whether or not a document is a record, the ability to perform formal retention and destruction of records based on their classification, the ability to track and control documents that are outside the system (such as on paper) and the ability to faultlessly track the location of all records, so that they may be located and destroyed according to the required retention schedule.

The email records management policy

Three main types of emails can be identified:

- Organizationally important email (of historical, administrative or legal importance).
- Private email- having no organizational historical, administrative or legal importance.
- Spam email- having no personal or organizational importance.
- And three types of Email addressees:
 - Those that the mail is intended to- and need to act upon it.
 - Those receiving a copy of the mail (cc)- usually for their knowledge- not action.
 - Those receiving a blind carbon copy (abbreviated bcc:) referring to the practice of sending a message to multiple recipients in such a way that conceals the fact that there may be additional addressees from the complete list of recipients.

It is necessary to differentiate between them and to relate to them differently from the record keeping point of view. As the amount of material created since the introduction of electronic means of creating and transferring data has grown immensely- the need to evaluate and sort the material with-

out loss of critical information- is essential, and so is its ability to easily retrieve the authenticated material.

Presented now are the major points appearing in the policy document for e-records management in Israel:

The State defined a policy for email management in order to properly manage them. Implementation demands preparing, issuing and auditing of appropriate directives adapted to the relevant laws and regulations.

The regulations should relate to the following issues:

1. Rules for writing emails- the content of emails should be written in accordance with the official writing rules applied to paper documents. This formalization can allow distinguishing between official and private communication.
2. Signature- the organization should define the rules for signing e-messages; the signature should preferably include the senders' full name, role in organization, name of organization, address, telephone and fax number, email address and any other relevant contact details.
3. Assigning responsibility on record management of emails on creator, receiver or manager-creating clear guidance with examples.
4. Declaration of an email as an archival record: the organization shall define the policy for declaration of an email as an archival record after which the declaration will be made public and the content and meta-data of the email will be copied aside and be made read-only. This will guarantee that the information will not be tampered with later on and thus assured a permanent and unchangeable status.
5. Each email that had been declared as a record will be marked in a clear manner enabling to distinguish them from other emails. Basically an email will be regarded as a record needed to be captured when the email creator did so as part of his professional or administrative work; When he is addressee of the email- the information in the email is needed to the organizations' activity or is a testimony of its activities; If it's the sole copy of the email and is relevant to the organization's activities.
6. Automatic rule-based system for deciding which emails should be archived and semi-automatic full email capturing including all meta-data- should be enabled- to ensure capturing organizationally important emails
7. Saving emails- all captured email records should be saved on a separate server and not on working stations.
8. Proper backup, including ability to cope with major disasters.
9. A training and assimilation program should be prepared.
10. Security policy-
 1. Authorization system
 2. The declaration standards assuring content and meta-data of the email will be made read-only and not open to further manipulation.
 3. Log of erased emails.
 4. Emailing classified material via assigned and secured intranet rather than internet.
 5. Software treating spam- marking them and quarantining them.
 6. Various security applications such as anti-virus, fire walls etc.
11. Demands from an e-archival system (ERMS) that will minimize quantity of emails in the system, archiving the ones declared, bettering reconstruction of emails.
12. Saving all mailing lists.
13. An organizational filing plan enabling easy retrieval.

Interim policy till the full implementation of ERMS

Till full implementation of **ERMS** all emails should be printed and filed according to organizational policy.

Conclusion

The vast use of electronic technology to convey messages and arrange transactions has posed

critical archival difficulties that need immediate responses in order to minimize the extensive and permanent loss of essential archival material. The paper presented the major issues and the major policy points for dealing with these difficulties in Israel.

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SUMMARY

The digital era allows substantial breakthroughs and opportunities for innovative and cost-effective developments relating to the creation, updating, dissemination, storage and retrieval of archival material of various sorts. It poses, on the other hand, extreme difficulties leading to substantial permanent loss of current archival material, especially in the intermediate period till international standards are agreed upon and widely adopted and implemented, using firmware, hardware and software answering to those standards. The difference between physical and digital archival material is in the platform in which it is housed and that has repercussions regarding the difficulties the electronic data has in providing the proper long term responses to the demands of archival material, demands being met by the physical e.g. paper material. The digital media, as opposed to the physical one, is sensitive to intentional and unintentional manipulations and changes; it is shorter living due to fast ageing of hardware and software- being replaced by newer and more advanced technologies. The major difficulty during this interim period is the lack of professional knowledge and awareness of material creators as to the necessity of setting up and using a specific electronic archival documents management system. Most material creators put their trust in the computing system without being aware for example to the importance of using a filing plan- which are the basis for the efficient organization of archival records that are necessary to support the bureaus' actions and retrieval of its records. The current computerized systems (e.g. servers, hard disks, Windows etc.) do not provide the basic demands for needed of a record management system. One cannot sufficiently provide protection of material from changes; proper auditing to ensure long term authenticity of the record; long term retrieval; safekeeping according to pre-determined safekeeping periods. Record creators tend to ignore use of filing plans out of the belief that the electronic system will know how to retrieve whatever is needed- using a key word or even single words in a file. As these processes aren't being handled in a professional correct way- there is a massive daily loss of valuable archival material that would be impossible to retrieve in the future, and the most current and urgent example is of emails which people don't tend to save. Coping with the massive loss of archival material taking place nowadays, demands taking immediate auditing and harm-reduction actions, as well as attending to long term responses. This in turn calls for the raising of awareness of key senior figures as to the importance of proper electronic file management and the need to update and implement and to fund the necessary policy and it's implications, such as recruitment of professional archival and computer specialists, developing proper hardware and software and disseminating it.

Original scientific article

Submitting date: 09.03.2011

Acceptance date: 16.03.2011