

Electronic Records Management in Romania: More Electronic-, Less Records-Management

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ABSTRACT

The management of electronic records and documents seems to be very developed in Romania. Mostly under UE financing, a lot of institutions implemented modern systems and digitized legacy paper records. Pertinent pieces of legislation were adopted (time-stamp, electronic signature and even an electronic archiving act) and this might create an image of proper regulated environment. But a closer look to the facts shows that proper electronic records management lacks almost completely. The paper will look into details about the way modern archives are prepared for the future.

Key words: electronic records, electronic archiving, legislation, long term preservation

Gestione dei documenti digitali in Romania: più digitalizzazione, meno gestione documentale

SINTESI

La gestione dei documenti digitali e dei documenti sembra essere molto sviluppata in Romania. Per lo più con finanziamento UE, molte istituzioni hanno implementato sistemi moderni e digitalizzato lasciti di documenti cartacei. Sono state adottate normative (segnature a tempo, firma digitale e persino un atto di archiviazione digitale) e questo potrebbe creare un'immagine di un ambiente adeguatamente regolamentato. Ma uno sguardo più attento ai fatti dimostra che una corretta gestione dei documenti digitali manca quasi completamente. Il presente articolo esaminerà i dettagli sul modo in cui gli archivi moderni sono preparati per il futuro.

Parole chiave: documenti digitali, archiviazione digitale, legislazione, conservazione a lungo termine

Upravljanje z elektronskim gradivom v Romuniji: več elektronskega, manj klasičnega

IZVLEČEK

Upravljanje elektronskih zapisov in dokumentov je v Romuniji dobro razvito. Mnogo institucij je s finančnimi sredstvi, pridobljenimi predvsem iz Evropske unije, uvedlo sodobne sisteme za upravljanje z gradivom in digitaliziralo svoje zapise. Delno je bila sprejeta tudi ustrezna zakonodaja (časovni žig, elektronski podpis in celo zakon o elektronskem arhiviranju), kar bi lahko ustvarilo podobo pravilno urejenega okolja. Vendar pa podrobnejši pogled kaže na skoraj popolno pomanjkanje pravilne ureditve področja upravljanja z elektronskim dokumentarnim gradivom. Prispevek obravnava podrobnosti o tem, kako so sodobni arhivi pripravljene za prihodnost.

Ključne besede: elektronsko gradivo, elektronsko arhiviranje, zakonodaja, dolgoročna hramba

This paper seeks to give a short report on the state of electronic records management and archiving in Romania. It is a case where records professionals had and have almost no involvement and the development of this sector is based on the sectorial needs and IT offers for it.

My view has some self-imposed limitations. Examples comes and analysis goes mostly from/on the perspective of records and archives management, and mostly on public sector. Therefore, developments in some economic fields (like specific production software in companies, systems in libraries or similar) are out of my view.

1 “Historical” Background

The Information Technology in Romania faced a certain development starting from 1960s (Internet 1). The industry stated to develop with support from Western Countries, mainly France and U.S. (Internet 2). In 1971, the first manual of Informatics for high schools (Niculescu, 1971). In an age or large national political strategies, deployment and use of computers and software was regarded by the Communist party as a state policy (Rușanu, 2014, p. 5-12.). As a result of academic and industry development, also supported by political strategies, at the end of 1970s, large Romanian industrial plant had introduced electronic accounting systems¹. In other economic fields also, large databases have been created. State Archives were part of this process, not as a management of records, but as records producer (Rușanu, 2014, p. 15). In this regard, as a result of previous decades of development, it is relevant that in 1996, the National Archival Act introduces digital records as part of the National Archival Heritage (Law 16/1996 of the National Archives, art. 2.).

Despite these evolutions, after the fall of Communism was noticeable general abandonment of former systems and information they stored. Many reasons maybe invoked, from poor quality of data (due to aberrant policy from the last decade of Communism that affected strategies and policies of development) to the quick adoption of modern and more performing Western technologies. The government policies of privatization and the new rules of competition on a free market determined many former state companies to get rid of their old systems and adopt new ones. In almost all the cases, the previous electronic records were not saved or converted at all. State Archives were a perfect and unhappy example, where previous databases were abandoned step by step until 1997; their miraculous recovery in 2013 proved they were useless, since the content was obsolete and imprecise.

2 Developments of systems creating electronic records

Until 2000s, due to the random economic involvement of some companies, certain sector projects were developed (Internet 3), aiming to create systems to automate the workflows in some institutions or economic areas. The adoption of modern technology was rather poor and did not embrace a national or large-scale strategy². Only in 2001, the government adopted a strategy for implementation the information technology in public administration (Decision no. 1007/4.10.2001). For 357.6 million USD, in several years were supposed to be developed a national network, information portals, IT systems for local administration, civil registration, national emergency system, national electronic ID card, implementation of electronic signature, management of document workflows, e-procurement system³. What is obvious for any reader of the strategy is the almost complete absence of any reference to records and archival management process. With the exception of some references to the registry of local authorities and some intentions of document (in fact records) management workflow-and this for accountability purposes, not for the management of records *per se*-nothing in the strategy allows to presume somebody cared at all about what will happen with the data and information the new systems were about to create. In the following year, supported also by the massive adoption of *EU acquis* as a pre-condition for EU accession, the move towards e-government was accelerated, at least in creating a legislative framework.

Until 2015, many line business systems were eventually implemented. Mostly after the accession to EU in 2007, many public institutions started to implement complex systems, in an attempt to modernize their workflow and the interaction with the public. In many cases, these projects were huge enterprises, and not once they were targeted by public scandals due to their unsatisfactory deployment⁴.

1. As visible from the paper records generated by computers, records existent in repositories of the National Archives.

2. This situation is more and more an issue today, due to the complete lack on integration between public services systems.

3. Most of those project not only they are not still implemented, but some of them overtake by far their planned budgets. Many of the projects cited in corruption cases. Some financial reporters claims that Romanian spent 10 billions euros between 2000-2014 for IT systems (see Internet 4: <http://www.zf.ro/business-hi-tech/10-miliarde-de-euro-in-it-din-2000-pana-in-prezent-cat-a-fost-mita-13360294>).

4. See the recent scandal on the Health Card (Internet 5: <http://www.revista22.ro/lucian-duta-provoaca-scandal-cu-cardul-de-sanatate-guvernul-sesizeaza-dna-28834.html>) or the e-Romania project (Internet 6: <http://economie.hotnews.ro/stiri-telecom-19296473-reprezinta-eromania-proiectul-mentionat-dosarul-coruptie-elenei-udrea.htm>).

If I would try to classify the system deployed, I think they would fall into one of the following categories:

- *accounting/fiscal systems*. They are spread in all kinds of organizations and this sector seems the most advanced in being completely digital.
- *document management systems*, mostly deployed in connection with digitization projects.
- large line or integrated systems (*CRM solutions*, registry systems, land possession registration system, HR etc.).

The accounting (and fiscal) systems developed as a strong need of the employees in financial sector. In the 1990s and the beginning of 2000s, many systems were designed only to calculate and generate the paper record. The increasing need for speed (for users) and control (for the state) open the gate for creating the legal framework towards a large implementation of electronic services. In this regard, it might be relevant to see that today, on the website of the Ministry for Information Society, from 7 electronic services enumerated as 'lead' by the State, 3 are directly connected and 3 are indirectly connected to the fiscal sector (Internet 7). In time, many other supporting steps were followed. For instance, some innovation with an impact on the "diplomats" of records were introduced, such as listing some record types that do not need signatures at all (Order no. 1364/25.09.2007), nor stamp⁵. Such endeavours offered a solution for dilemma "which is the original and which is the copy", since the records could be printed out from an IT system and could be communicated without any validation.

All the activity of companies around generating electronic records within accounting/fiscal framework is based on electronic signature and time stamping. I shall come again later to some considerations in this regard. One has to notice, however, that many provisions were issued for proper management of records generated by this economic function. In 2007, it was adopted an act for registration of commercial operations by electronic means (Law 260/19.07.2007), accompanied by a detailed application ministry order and a regulation for testing software for generating invoices and bills. These provisions (abrogated in 2009) emphasized the need for authenticity, integrity, confidentiality of records, for the entire retention period and of interoperability of systems (Internet 9). All provisions are based on IT standards for electronic signature and time stamping.

While efforts toward modern systems for generating electronic records by the "contributors" were noticeable, the other side of the desk—the revenue services—faced a frustrating slower development. For instance, for almost a decade (and still today!) accounting information were send to the revenue offices on floppy disks. Only in the latest years, the online services are available, and contributors can transfer online their records to the virtual office⁶. The Romanian Court of Accounts in 2012 gave a full report of the systems used by the revenue services in its activity. It is stated that the technology of the system was outdated. Many applications and databases are distributed and administered locally, under the full powers of IT staff that have full privileges over the databases, with large possibilities of copying and altering the data, with less (if any) possibilities of tracing the intervention (Internet 12).

As a general remark, one can notice the fact that authoritativeness of the records was guaranteed for fiscal records at individual level, mostly from contributors' side, by using electronic signature. It was not the same for the State authority that was allowed to issue records without any validation, only by printing them outside of the system. These systems, on the other hand, were unreliable and vulnerable to different form of alteration.

A significant trend in the last decade was the deployment of large projects, large by the size of the software involved (large CRM solutions, for instance) or the scale of application (national integrated services). As a rule, almost none of these systems was concerned about the future existence of their data/information, and about its proper management.

5. Traditionally, stamps are used in Romanian administration. This new actions for the fiscal records were welcomed by many, as a new step towards de-bureacratization, but denied by others - see the reaction of a stamp producer here: Internet 8: <http://www.agerpres.ro/ots/2015/06/16/stampilele-trebuie-pastrate-in-uz-la-ce-pericole-s-ar-ajunge-daca-s-ar-renunta-la-stampile-14-59-15>.

6. Type of records are listed here: Internet 10: <http://www.certsig.ro/certsig/solutii-de-securitate/declaratii-fiscale-online/procedura-de-depunere>; Internet 11: <http://www.certsig.ro/certsig/noutati/anaf-extinde-lista-de-documente-care-pot-fi-depuse-si-vizualizate-online>.

CRM solutions were implemented mostly in those sectors with a high level of interaction with the public (for instance, banking systems, mayors' offices etc.). Based on direct identification, a person can get access to the portal by an account, submitting request to or receiving answers from the offices or performing certain tasks. As an example from the mayor's office in my city, the answer is usually a pdf file, scanned after the original on paper, bearing no digital signature. When documenting for the present paper I found no reference or concern to the management of records contained in these systems.

From 2011, all organizations in Romania need to keep an electronic journal of the employees, which replaces the former employment record book (Decision no. 500/18.05.2011)⁷. That is, all the records about the work contracts will be stored electronically. The only reference to the records management issue comes in article 8/5: "the electronic registry... will be kept in such condition to ensure data security and a proper and for long term preservation". There are no references whatsoever about means, procedures or details about preservation.

In 2015 it was implemented a national-wide Health-File System, aiming to collect all the necessary information for those individuals affiliated with the Health Public Insurance System. Similar with the application from the Retirement Public Insurance System, there were no concerns with the appraisal of information contained, nor other solutions for managing the records contained in the databases. The standard answer is: storage is enough, we shall never delete anything from the system.

Document management systems are very popular systems, driven by the marketing idea of "paperless office". These are usually associated with projects of digitization (on the workflow or retro-digitisation), aimed, at least theoretically, to improve the effectiveness and efficiency of the employee. In most cases, these systems mimic a records management system, with specific functionalities (registry, classification, rarely disposition). A closer look to these implementation often reveals serious flaws, from the point of view of a proper records management: retro-digitisation is performed on records with an expired retention periods, digitization on flow lacks rules, so not all records are scanned, but only ones appraised as „important”; classifications are weak ("flexible"); appraisal rules only applies on physical record and not also on their digital reproductions etc.

As a first general remark, all these implementations pay little attention to "what will be next". The only emphasis is on the present and near future. Even the Court of Accounts auditors check the system only from the point of view of Information Security and the reliability of IT systems, but not from the point of view of the life of information, its management over time. One may argue this is normal, since everybody wants to act for the direct-productive area, not for the by-products. But these ignorance comes also from 2 directions. First, nobody cares about something that does not hurt. The risks associated with the poor electronic recordkeeping are not obvious and almost never included in risk assessment registry for public institutions. Of course "digital troubles" occurred; but, as long they are not connected with poor recordkeeping, but with misuse of hardware, there are no proper lessons learnt. On the other hand, the IT industry, even if aware of the need for proper information management, is not eager to do it: if something will be bad in the future, it will be a case for a new contract to solve the issue...

A second remark is the visible inclination to the large databases (i.e. structured information) and the negligence of unstructured information. The systems deployed stress the idea that, what is relevant stays in databases. No one really cares about discrete items like emails, office files or even websites. The provisions for unstructured information lack almost completely and, if where not missing, ignored. I truly believe this is one of the results of the non-intervention of RM professional in the topic.

A third remark highlights the almost complete lack of involvement of the National Archives in the matter. To be clearer: National Archives has, by law, the authority over the records management of public institutions. Classifications schemes, disposition schedules-are all approved by the National Archives. The institution also has the right of inspection on how the records are cared. Despite that, in the field of electronic records management there is no involvement at all. There might be several factors here. First, many of the systems deployed does not contain permanent records; a lack of interest

7. The previous attempt for such a system dates back in 2007 (Decision no. 161/3.02.2006).

here might be justified. However, the systems grew and when something really vital was deployed⁸, no reference to the Archival Act of the proper records and archival management was made.

The most critical factor for the National Archive was, and still is, in my opinion, the human factor, from management to the simple archivist. From managerial point of view, I heard not once in early 2000's that "since we are going to transfer those records after 30 years, we shall have enough time to think about them". This is, in my opinion, a perfect example of professional blindness. Also, these managerial strategic issue was multiplied by the staff issue. The IT matter was not part of the standard training of the archivists. A true archivist was considered, until lately, the one reading paleography, not one caring about computers⁹. When, in 2007, the institution was consulted about the law for electronic archiving, there could hardly be found 2 archivists that could be delegated for discussions. Moreover, despite legal provisions, many archivists even claims that electronic records are not National Archives' task. On the other hand, the severe low budgets of the institution made the IT infrastructure a luxury, for years. When, in 2013, a national level IT system was deployed for the National Archives, the most problematic in change management were not the reengineered processes, but the ability to use computers and systems in a network! This lack of staff and lack of awareness about the real world pushed the National Archives aside from the trend, and the effect is that more and more large systems are deployed, containing also permanent records, and currently there are no strategies, no approaches at all about these area.

3 Legal framework

The legal framework regarding electronic records is rather generous, due to EU general regulations and some IT sector lobby. I will only make some consideration about 3 acts: electronic signature (Law 455/2001), time stamps (Law 451/1.11.2004) and, of course, Law of electronic archiving (Law 135/15.05.2007).

The Law for electronic signature¹⁰ is in fact the national implementation of an EU Directive (Internet 15). The Law for time-stamps is supplementary to one regarding electronic signature.

Under the provisions of law, qualified certificates allowing the use of an extended electronic signature are issued in a legally control manner, so as to ensure the real identification of the person using an electronic signature. From technical point of view, a certificate is valid for 1 year, after that it must be re-issued. A copy of the certificate must be preserved by the issuing authority for 10 years "mainly to prove the validity of certificates in case of litigations" (Law 455/2001, Art. 20)¹¹. From legal point of view, a document signed with an e-signature based on a qualified certificate, not suspended and not cancelled at the moment of signing, bears the same weight of proof as "writing under private signature" (Law 455/2001, Art. 5).

Timestamp law established a national authority maintaining a time server for the territory of Romania and provide the framework for issuing services of time stamping.

Despite the fact electronic signature was intended to be the only mechanism for authenticating the documents/records in digital environment, being a condition for a record to be electronic archived¹², it is not always the case. In some institutional frameworks, a simple e-mail is accepted as legal request¹³. In banking system, the tokens are frequent, but they are not based on electronic signature

8. See Internet 13: http://media.hotnews.ro/media_server1/document-2013-08-7-15334912-0-caiet-sarcini-siieasc.pdf. It is a project about deployment of the Integrated Information System for Issuing the Records of Civil Status, including also the scan and storage of historical archive of civil status. Since these records are transferred to the National Archives after 100 years, it is obvious they are permanent records and it should have been obvious the need of involvement of the National Archives in the topic.

9. Even today, the electronic records management is only taught as a master course, not being part of the basic curricula. The use of computers is, and a common mistake confounds the ability of use a computer with the one of managing e-records.

10. Electronic signature is used with the European Union meaning. For different understandings, see Internet 14: https://en.wikipedia.org/wiki/Electronic_signature.

11. It should be noticed that Romania is a country with civil status.

12. See discussions below.

13. Order of the Ministry of Internal Affairs 190/2004. Art. 2 indicates that a petition can be formulated by writing or

issued by the e-signatures providers. Moreover, the New Civil Procedure Code states that a signature applied on electronic documents is valid under the provisions of the special law (New Code for Civil Procedure, Art. 268/2), but it also accept that an electronic document is valid if “it is recorded systematically and flawless, and when recorded data are protected against alteration and forgery so as the integrity of the document can be fully ensured” (New Code for Civil Procedure, Art. 283.).

A recent development also imposed some limits for the use of electronic signatures. The case regarded the fact that a govern agency electronically identified the offender to one traffic law. The record for the fine was electronically generated but, because the database only contains the offender’s geographically address, the records were printed and send by regular post. The Higher Court for Cassation and Justice decided that the fine records, generated and signed electronically and then printed on paper were not legal for two reasons. First, the fine record should bear the finder agent signature; if it is on paper, it should be the signature should be on paper, according to the law. And secondly, a record issued under public law domain cannot be considered writings under private signature, as records with e-signature are. Therefore, for a public institution to issue records in public law domain it should be prescribed specifically by law (Internet 16, p. 7). This, in our interpretation, mark a serious blow for all e-governance process, since every public institution need a law granting the right to issue e-signed records.

Another issue raised is about the way digital signature is applied. In a recent case we faced in our archive, we have acquired a package of files digitally signed. When we tried to open the package (that was zipped with a compression software) we noticed we need a third party software in order to open it: it was digitally signed and put in a digital “envelope”. After using that software, we managed to open the software, but, because it was not time stamped, the e-signature validity could not be validated; the checker was not sure if the certificate was valid at the moment of signing, because the time was from signer’s computer. Based on this experience, it is obvious that, in order for the digital signature to be fully valid, it should be mandatory accompanied by time stamping-but this is not prescribed by the Romanian law. More, from archival point of view, the packing of a file just set a new layer of codification, amplifying the challenges for a proper preservation.

The Law for Electronic Archiving was adopted in 2007. It was promoted mainly by IT sector, with barely involvement of the National Archives, as national authority in the field of records management.

The Law defined electronic archives as electronic archives as the electronic system of archiving together with all the electronic records archived. Further, the electronic system of archiving is information system for collecting, storing, organising and cataloguing the electronic records for preservation, access and rendering.

The law requires that one month before starting to archive, those who wants to administer such an archive must be authorized by a special authority (within the Ministry for Information Society).

In order to accept a record in an electronic archive, it must fulfil certain requirements: it must be electronically signed, with a valid signature and the owner should deposit the encryption key to the National Archives (for encrypted records)

The administrator of an electronic archive shall attach to every record received an electronic “card”, that will be archived separately from the record itself. It shall contain at least the following information: owner; issuer; the person entitled with right of disposition; history of the record; the type of document; level of classification; digital format; keywords for identifying the record; physical address of the carrier; unique ID of the record within the archive; date of issuing; date of archiving; retention period. If the record was generated by “transferring information from analogy to digital carrier”, additional information will be: references to the owner of the original and its place; method of “transfer”; the hardware used; the software used. When receiving a record from the owner, the administrator of the electronic archive shall sign it electronically with its own signature. Also, it shall keep a record of all the records archived.

by email (sic!). According to registry provisions, such emails are printed and recorded into registry system.

An important section refers to the conservation. It is prescribed that the administrator shall preserve the source code used for building and exploiting the electronic archive or of the executable source code; a copy of this source-code shall be deposited at the National Archives.

The administrator shall maintain and offer software tools allowing “translating” of any e-record from the (obsolete) format archived to a new format, according to the new technologies. If a record is archived in an unrecognized format, the administrator have to update the “format library” and the software used for creation and view.

It should be noticed from the beginning that archives, under the definition of the law, is not any more the whole of records created or received and preserved by an organisation, but an information system altogether with its content. This approach let aside the case where the e-records are migrated from one system to another; enforcing strictly the provision of law, it would mean the new system should ingest also the previous system, in order to maintain the integrity of the archives... Also, since the law neatly regards only unstructured records, databases are outside of the intentions of the regulators, with, again, contradict the idea of a complete “electronic archiving”.

Also, the provision of the law set the position of the electronic archive in an unclear moment of the lifecycle of record. On the one hand, the record is archived, that is, in Romanian terminology, is no longer active (current) record. Despite that, the “card” data (read *metadata*) are very much similar with those captured regularly at the point at registration a record in an organisation. That is, the record is re-registered when enter in the archives, but the original reference is not preserved as minimal mandatory metadata. On the other hand, the record is semi-active, since it will be taken from the working environment of an organisation and send the “archive”, where is preserved until its retention periods expires.

The practice for the administrator to re-sign every record when receiving it in archive (and, for the purposes of continuity, re-sign it periodically) brings new layers and new challenges for long term preservation-where the case, of course. On the other hand, the lack of any mandatory log about record in the archive, and the exclusive reliance on electronic signature increases the security risk for the record.

As resulted from the law, the law maker opted for individual item management, very IT-, and very non-records or archives management oriented. The bare possibility that records are connected in aggregations and that an archive is more than the sum of individuals is completely of sight of the law maker. In the same regard, an electronic archive-as it is outlined-is only a collection of the most relevant electronic records in an organisation (signed with electronic signature, those sent purposely to the archives etc.), with no intention to capture all the records of the organisation.

The provisions about conservation shows a lack of broad vision on the topic. The obligation of keeping the source codes and of encryption keys might mandate the National Archive to establish a programme of emulation, in order to keep those software run. Or, this is a complete unrealistic approach, since National Archives should not be a repository for old software. The migration (“translation”) is the task of the administrator, with no clear obligations about quality of process. Even more, just for the sake of an example, claiming that a format is obsolete, an administrator might migrate a file, change some data into it and then sign it with its own signature, generating a “migrated original”, with no trace of the process and with no implication of the owner of the record. A simple IT company providing services of electronic archiving is thus granted with the same rights as public notaries or public institutions.

As it looks today, the Law for Electronic Archiving in Romania looks a sort of mixture of specifications for ERMS, OAIS-compliant systems and Trusted Digital Repositories, without fully covering any of them. Reserving the right of inspection over electronic archive to the Ministry for Information Society was a relief for the National Archives, but, on long term, it is expectable to create a real trouble for the permanent records.

On the other hand, the real life does not fit with the intentions of the regulator. In June 2015, according to the Registry for Electronic Archiving Operators (Internet 17), after 7 years from the enforcement of the law, there are only 14 operators, and only 3 for “their own archives”. That would

mean in Romania, legally speaking, there are only 14 creators of electronic archives, all the other institutions relying on paper records - which is absurd. The Registry of Commerce (Law no. 26/1990, Art. 4), the agency concerned with registration (incorporation) of companies delivers electronic services and have a huge series of electronic records, fully valid legally-but it is not an electronic archives operator. Also, the public notaries, that are granted by law with the right of authenticate electronic records, are not authorized as being electronic archive (Law no. 589/15.12.2004). The National Office of Statistics, that maintains huge databases, the National Archives, or all the public institutions that heavily use websites and emails and internal business systems - none of them are "electronic archives" administrators. This, of course, is ridiculously and shows clearly the limits of this law.

4 Some conclusions

We sought in this paper to have an overview over main development in Romania on the field of electronic records management. At the end of almost 50 years of processing electronic records, the results are not encouraging.

First, Romania faced a serious shift of technology and economy; these led to a massive abandonment of former IT systems, all along with the information contains in the databases. Despite there was no public debate on this, the lesson learnt, in our opinion, is that every time a radical change will occur (in technology or legislation), nobody will care about the previous records, unless there is a very targeted interest on them; records are generally not considered vital in case of social unrests or radical power change. It is there where the records-and most particularly electronic records-are the most endangered.

However, this lack of interest for the future need for records is not relevant only in case of social incidents. Broader speaking, as I developed in another paper (Popovici, 2014), any shift from one management responsibility to another, might present a high risk on proper preservation of electronic records. In those moments, the stakeholders might look to the budget and the immediate need for records, and choose to make cuts. Without clear and mandatory provisions I find very unlikely that an organization will pay (and pay much!) for technologies, infrastructure and process concerning long term preservation of their e-records. Although initiatives in this regard were presented (Internet 18, Internet 19), I still believe they must pass the test of budgets and technology in order to consider it an easy to solve problem.

Second, as I mentioned above, a lack of mandatory legal provisions will not encourage anybody to take good care of e-records. The most immediate needs are the fiscal ones, so after ten years (as used in Romania) the e-records looks more and more dispensable or, at least, "fitted to forget". The managers deciding the investment in an IT system look-somehow natural-to the improvement of the current work, not to the preservation of records. It is the same on paper records and I do not see why it will not be the same with electronic records. But, as it is known, if the paper resists, the e-records cannot face such an abandonment with the faith in their usability. Moreover, until the real life will prove that a certain "habit" of managing e-records is not correct, and until that decision to be a common place, another millions of records would have been already created in the same poor manner. The records once created, stays as they were, and a poor recordkeeping regime allows for poor e-archives and poor e-memory.

Third, without a proper involvement of professionals in managing records and precise legal provisions, the IT companies will make the market and they will make it at the minimum of required provisions. I met cases where a good document and records management solution was implemented only with its document management modules, because nobody cared about retention periods and rigorous classification schemes. On the other hand, it is a good deal to minimize records management and long term preservation issues, by stating "we shall solve this issue when it will appear" or "storage is cheap, so why not keep everything". The real life teaches us, however, that "solving" issues costs a lot, and that storage may be cheaper, but it still costs and the needs for space is bigger and bigger, when comparing with the amount of information created daily.

An important issue with Romanian e-records management is the lack of "lessons learnt" practice. Bad implementations are most of the time hidden, since neither the contractors, nor the beneficiaries would like to admit they had a bad deal. This approach prevent creation of a best practice portfolio.

In my opinion, one major responsibility resided on the National Archives. As regulator over the field of records and archives in Romania, the institution should have acted as a steering role in dealing with e-records management. Lack of vision, lack of professional training, and severe lack of budget made that, for almost 30 years, the role of National Archives be almost irrelevant in the regulation landscape. I hope that the new Archival Act, under development now, might raise for the National Archives the obligation of getting involved in this process. However, the National Archives need to convince the law makers, contrary to different lobbyists from IT area, that its contribution is important and relevant for public interest. Even approved, this part will require new trained staff and new resources for proper systems of long term preservation and this will take time anyway. It seems that this will be too late for the electronic records of the 1990s, so it will be another decade lost in the history of Romanian electronic records.

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SUMMARY

Romania faced a development in information technology from 1960s and used in industry since the end of 1970s. Despite almost one decades of production, due to the lack of interest, no electronic archive created during Communism was preserved. In 2001, a government strategy for introducing IT in public administration was adopted. Its roadmap is still not completely fulfilled, but significant steps were done. From implementation point of view, the author distinguish three main type of systems. The first one covers the accounting software, that are largely used and for which many regulations have been adopted. The second covers document management systems, promoted by the dream of "paperless office". Third category covers big CRM system and line business systems, whose implementation aimed to support public electronic services. These development, driven by the IT market, was supported by the adoption of relevant legal framework. The electronic signature and time stamping laws were adopted and gave way to create electronic records with "legal value". Also, the Law for Electronic Archiving was intended to create the secure and reliable framework for all electronic records. However, from a records and archival management point of view, the existent situation barely offers any warranties. All the solution adopted were design and supported by IT sector, with less understanding on medium and long term. Almost none of the solution debated in the fields of electronic records management was considered and, in most cases, the issue of records/information management was not even approached. The National Archives, as regulation authority in the field of records management, was avoiding the implication in the topic, almost completely. The situation, as it is outlined now, may raise serious risks for preserving permanent records.

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