

Interdisciplinary Approach for Hybrid Records Management in Belgian Federal Administrations: The HECTOR Research Project

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ABSTRACT

This paper introduces the context, objectives and methodology of the HECTOR research project (Hybrid Electronic Curation, Transformation and Organization of Records), an interdisciplinary project combining law and information sciences whose main purpose is to develop a model for the transformation, organization and curation of hybrid records (i.e., paper-based, digitized and digital born) in Belgian federal administrations, in order to facilitate the transition to a trustful, secure and effective electronic government.

Categories and Subject Descriptors

E.1 [Data]: Data structure – *Distributed data structures, Graph & networks, Records*; E.5 [Data]: Files – *Organization/Structure, Sorting/Searching*; H.3.1 [Information storage and retrieval]: Content Analysis and Indexing – *Indexing methods*; K.5.2 [Legal aspects of computing]: Governmental Issues – *Regulation*; K.6.1 [Management of computing and information systems]: Project and People Management – *Life cycle*.

General Terms

Management, Documentation, Performance, Reliability, Security, Human Factors, Standardization, Theory, Legal Aspects.

Keywords

Hybrid Records Management, Appraisal & Disposal, Metadata schemes, Authenticity, Digital Evidence.

1. INTRODUCTION

Despite major technological advances and standardization efforts within the field of electronic records management, the reality of public and private administrations provides countless examples which debunk the myth of the paperless office. Every kind of organization is currently confronted with a hybrid environment of records: paper-based, digitized, and digital-born, some of which are (re)printed for various reasons. The lack of clear management

policies for such heterogeneous records results in a lot of confusion, redundant or lost information, waste of valuable resources, and potential legal conflicts which hamper the efficiency of public services.

Most studies conducted in the field of records management concentrate either on the paper-based office or on its digital counterpart, but very few focus on the management of hybrid records in an era of digital transition. Even if great efforts have been made in terms of standardization, records managers have to deal with multiple standards and best practices that seem difficult to apply to a mix of paper-based and electronic records. Similarly, from a legal perspective, the first regulatory measures taken by lawmakers have been to set up a framework for digital signatures and to recognize the use of electronic communications for commercial and administrative purposes, leaving hybrid documents in a grey area where their legal value and authenticity remain a challenge. Such a situation conveys important risks for federal administrations, notably in terms of confidence in public services, potential legal conflicts, access to crucial information, and the waste of valuable resources. It is therefore of strategic importance to rationalize and organize residual paper-based and semi-electronic records management.

The goal of the research project HECTOR (Hybrid Electronic Curation, Transformation and Organization of Records) is to offer clear guidelines on how to streamline hybrid records management practices within the Belgian federal administration through a transverse and systematic approach. The expected result is a more coherent and effective hybrid documents management strategy that will improve access to public information; enhance trust, transparency and security; minimize the use of paper from a sustainable development perspective; and finally, adapt, if needed, the current conditions for long-term preservation of the informational heritage of federal public services.

In order to provide an interdisciplinary approach, the HECTOR project's research team gathers experts from the fields of legal sciences (Research Centre Information, Law and Society of the University of Namur), information sciences (Information and Communication Science department of the Université Libre de Bruxelles), and archival sciences (Digital Preservation & Access Division of the State Archives Belgium). The team is completed by cross-domain expertise in both archival sciences and the law from the University of Montreal (École de Bibliothéconomie et des Sciences de l'Information).

2. SCIENTIFIC CONTEXT

Throughout the 1980s and 1990s, large IT players implemented the idea behind the records continuum¹ within Electronic Document and Records Management Software (EDRMS). These software packages were heralded throughout more than two decades as a cost-effective solution for managing the growing production of electronic documents within large organizations. The reality of vendor lock-in (i.e. the enormous costs to the customer of switching to a different EDRMS), as well as the rapidly-changing technological landscape, made the EDRMS implementation and evolution process a lengthy and painful experience for most organizations.

Out of this situation arose the necessity to develop functional requirements, concentrating on what the functionalities of a records management system should be, rather than on how they should be implemented practically. Two important contributions in this direction were Designing and Implementing RecordKeeping Systems (DIRKS) on the one hand, developed by the National Archives of Australia and officially published as a standard in 1996, and the Model Requirements for the Management of Electronic Records (MoReq) on the other hand, originally published in 2001 by the European Commission, superseded by a second version in 2008 (MoReq2), and revised in 2012 (MoReq2010).

However, the monolithic and centralized approach of the EDRMS model proved very hard to implement in a context where documents and records are increasingly scattered amongst applications and media. Every large administration is currently confronted with paper-based originals that need to be conserved for legal reasons, digitized versions of paper documents, and digital-born documents. James Lappin acknowledges the failure of the top-down, centralized EDRMS model compared to more collaborative approaches and proposes to replace it with a new records repository model based on the concept of a central repository that is responsible for a unique and secured storage of content, which can be used by other applications through web services and which can connect with a filing plan and retention rules². The functionalities of a modular approach based on the repository model are illustrated in MoReq 2010, which has been thoroughly reworked due to the failure of the EDRMS approach.

The HECTOR project wants to demonstrate how we can rationalize the creation and management of filing plans and retention schedules through the use of linked data principles. The combination of increasing budget cuts and growing electronic collections is currently forcing information providers (archives, libraries, public administrations) to rethink the ways in which they provide access to their resources. The traditional model of intellectually (and therefore manually) indexing documents has already been under pressure for a number of years. Both funding bodies and grant providers expect short-term results and encourage cultural heritage institutions to gain more value out of

their existing metadata by linking them to external data sources. It is precisely in this context that the concepts of Linked and Open Data (LOD) have gained momentum. Recent initiatives such as OpenGLAM and LOD-LAM illustrate how these evolutions are being implemented in libraries and archives.

Linked data principles potentially hold a tremendous value for the archive and records management community. HECTOR specifically wants to focus on how linked data principles can be used to more efficiently produce, manage, and distribute access to functional thesauri, business classifications, and filing plans. All too often, these tools are managed and distributed in formats such as PDF, Word, or Excel, making them impossible to manage through an automated process. With the help of concrete case studies, HECTOR will investigate the possibilities of using SKOS (Simple Knowledge Organization System) to facilitate the machine interoperability of business classifications used for record management purposes. This approach will not only allow for a more efficient distribution of access to classifications from a centralized authority (Belgian State Archives) for administrative bodies, but will also serve as a basis for automated content extraction and aggregation, with the help of, for example, Named-Entity Recognition and text mining tools.

Beyond the evolution of the medium—from paper to digital—it appears that information sciences and archival sciences have evolved in separate worlds, at least in Belgium, notably with regard to the normative and legal environments that treat them separately. This trend is gradually changing: from the records managers' side, the latest version of MoReq shows a relative integration of archival principles, and from the archivists' side, a professional standard developed by the International Council on Archives (ICA-Req) has become an ISO standard in the records management field. However, the management of hybrid documents, although not excluded by MoReq2010, needs to be clarified in the context of classification, description (metadata), appraisal, and disposal. The challenge of the disposal requirements within MoReq is indubitably connected to the issue of the appraisal process. There is a need to define clear criteria for the retention of records, including the question of their legal value.

3. METHODOLOGY

From a horizontal point of view, the research will be conducted with an interdisciplinary approach, closely combining information sciences and law. Within information sciences, interdisciplinarity will also be implemented through the integration of archival sciences at an earlier stage in the elaboration of hybrid records management strategies, instead of confining archivists to a depository and preservation role. This “integrated archival” approach is highly encouraged by Rousseau and Couture³ in order to anticipate the long-term preservation of records, for instance in appraisal/disposal process modelling, during which the primary and secondary value of records should be jointly taken into account.

From a vertical point of view, the project adopts a bottom-up approach in order to take into consideration the particularities of hybrid documents management and to meet the concerns of

¹ Defined as “a consistent and coherent regime of management processes from the time of the creation of records (and before creation, in the design of recordkeeping systems) through to the preservation and use of records as archives” (Australian norm 4390 on records management - 1996).

² Lappin, J. 2010. “What will be the next records management orthodoxy?” *RMJ* 20(3): 253.

³ Rousseau, J.-Y. and Couture, C., *Les fondements de la discipline archivistique*, Presses de l'Université du Québec, Montreal, p. 50.

federal administrations. As a starting point, HECTOR is based on an exploratory analysis of a selection of relevant and generalizable case studies within Belgian federal administrations representing users of hybrid documents.

The analysis of simple hybrid documents management will be based on digital and paper statements of offence at the Federal Police, the Local Police, the Federal Ministry of Employment and at the Courts, where different projects of digitization of paper reports are combined with digital-born records projects. Then, the analysis will be enlarged to include complex, hybrid files, such as inspection files at the Federal Agency for the Safety of the Food Chain (FASFC), the Federal Agency for Nuclear Control (FANC) and the State Archives in Belgium, and human resources files at the Federal Ministry of Finances in relation to the current e-HR project handled by Federal Ministry of ICT.

4. EXPECTED RESULTS

To enlarge the scope of the results, the research team will elaborate two transverse models, one for hybrid documents management and the other for hybrid files management, which could be applied in other administrations and services. The models will more specifically focus on:

- Documents and files digitization processes that preserve the authenticity of the document (traceability and integrity) and ensure its effective use (quality, accessibility and content exploitation);
- Appraisal and disposal policy after digitization (including destruction policy), with criteria for the need for retention or destruction of the paper original and its digital copy; the

determination of the respective retention durations of the original paper and its digital copy (disposal schedules based on the administrative, legal, organizational, and patrimonial value of the document);

- Classification and description of the digitized documents/files (metadata schemes and filing plans), including elements of authenticity, traceability, retention, and accessibility;
- Policy on access to digitized information, with regard to the balance to be found between transparency (access to public sector information) and privacy/confidentiality;
- Policy for the joint management of paper and digital documents/files (including a hypothesis on where such a joint management is necessary).

This research is based on a win-to-win cycle, where research results will feed back into the existing theoretical background and directly benefit the case study administrations involved in the project. Gradually, the scope of the study will integrate more potential users from other administrations.

5. REFERENCES

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