

RESEARCH OUTPUTS / RÉSULTATS DE RECHERCHE

Managing electronic records across organizational boundaries

Vanreck, Odile; Losdyck, Bénédicte; De Terwangne, Cécile; Aranguren Celorrio, Fiona; Maroye, Laurence ; Soyez, Sébastien; van Hooland, Seth

Published in:
Records Management Journal

DOI:
[10.1108/rmj-11-2015-0037](https://doi.org/10.1108/rmj-11-2015-0037)

Publication date:
2017

Document Version
Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for pulished version (HARVARD):

Vanreck, O, Losdyck, B, De Terwangne, C, Aranguren Celorrio, F, Maroye, L, Soyez, S & van Hooland, S 2017, 'Managing electronic records across organizational boundaries: the experience of the Belgian federal government in automating investigation processes', *Records Management Journal*, vol. 27, no. 1, pp. 69-83. <https://doi.org/10.1108/rmj-11-2015-0037>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



Records Management Journal

Managing electronic records across organizational boundaries: The experience of the Belgian federal government in automating investigation processes

Laurence Maroye, Seth van Hooland, Fiona Aranguren Celorrio, Sébastien Soyez, Bénédicte Losdyck, Odile Vanreck, Cécile de Terwangne,

Article information:

To cite this document:

Laurence Maroye, Seth van Hooland, Fiona Aranguren Celorrio, Sébastien Soyez, Bénédicte Losdyck, Odile Vanreck, Cécile de Terwangne, (2017) "Managing electronic records across organizational boundaries: The experience of the Belgian federal government in automating investigation processes", Records Management Journal, Vol. 27 Issue: 1, pp.69-83, doi: 10.1108/RMJ-11-2015-0037

Permanent link to this document:

<http://dx.doi.org/10.1108/RMJ-11-2015-0037>

Downloaded on: 06 June 2017, At: 03:17 (PT)

References: this document contains references to 20 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 250 times since 2017*

Users who downloaded this article also downloaded:

(2017), "The implementation of electronic recordkeeping systems: An exploratory study of socio-technical issues", Records Management Journal, Vol. 27 Iss 1 pp. 84-98 <http://dx.doi.org/10.1108/RMJ-04-2016-0014>

(2017), "Embedding a records manager as a strategy for helping to positively influence an organization's records management culture", Records Management Journal, Vol. 27 Iss 1 pp. 57-68 <http://dx.doi.org/10.1108/RMJ-02-2016-0005>

Access to this document was granted through an Emerald subscription provided by emerald-srm:450760 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Managing electronic records across organizational boundaries

Managing
electronic
records

The experience of the Belgian federal government in automating investigation processes

69

Laurence Maroye

*Information Sciences and Communication, Université Libre de Bruxelles,
Brussels, Belgium*

Seth van Hooland

*Department of Information Sciences and Communication,
Université Libre de Bruxelles, Brussels, Belgium*

Fiona Aranguren Celorrio and Sébastien Soyez

Archives de l'Etat, Brussels, Belgium, and

Bénédicte Losdyck, Odile Vanreck and Cécile de Terwangne
*Centre de Recherche Information, Droit et Société, Université de Namur,
Brussels, Belgium*

Received 2 November 2015

Revised 4 March 2016

22 June 2016

Accepted 2 July 2016

Abstract

Purpose – The purpose of this paper is to critically examine the reasons behind the relatively poor level of implementation of e-services. To this end, records management procedures in a particular Belgian federal administration – the Belgian Federal Public Service (FPS) Employment, Labor and Social Dialogue – will be studied. Based on this concrete and relevant case study, the authors examine how cross-organizational differences in terms of the implementation speed of digital workflows can hinder the development of innovative e-services. By doing so, the authors raise relevant questions about the efficacy of digital workflows and work processes. The impact on the consultation and exchange of government records among public services and toward citizens will be examined as well.

Design/methodology/approach – In the context of an on-going four-year research project named HECTOR (Hybrid Electronic Curation, Transformation and Organization of Records), the study is conducted from an interdisciplinary approach, closely combining information sciences and law. Moreover, this approach also has implications on information sciences through the integration of archival principles at an early stage of conception of hybrid (paper-based and digital-based) records management strategies, instead of confining archivists to a depository and preservation role. This “integrated archival” approach is highly encouraged to anticipate best practices for the long-term preservation of records (Rousseau and Couture, 1994). Furthermore, the project adopts a bottom-up approach based on an exploratory analysis of the particularities of hybrid records management within a project called “e-PV” led by the FPS Employment, Labor and Social Dialogue to draw general conclusions that could eventually be applied to other public services. In this case study, standardized surveys were used to collect information from a manager perspective, followed by in-depth interviews with field workers.

Findings – The miscellaneous reasons for the aforementioned poor level of implementation are a continuously decreasing public budget, a strongly rooted resistance to change, the difficult but inevitable cross-organizational relations between public administrations, the legal uncertainties arising from a fast-changing digital environment and the political autonomy in the decision-making process of the different public entities. As a consequence, the substantial differences between the many public administrations lead to a lack of interoperability not only at a technical level but also at an organizational level. The many local and



other non-connected initiatives that this situation has generated do not help fostering collaboration either. The absence of well-established records management policies is interpreted both as a cause and a consequence of some of the factors mentioned before.

Research limitations/implications – Research is carried out within Belgium’s particularly complex administrative context, where competences are not only spread but also shared at multiple levels (national and regional) and in multiple domains (legislative and executive). Consequently, the political decision-making process is also highly complex. Nevertheless, the observations and the findings of the study are deemed to be applicable to any administrative structure (both national and international ones).

Originality/value – This paper outlines the constraints of an almost completely implemented eGovernment initiative which may guide other public administrations in the development of their own e-services, as well as showing them the importance of taking into account records management and archiving principles. The multidisciplinary approach represents a significant added value.

Keywords Access, Records management, Automation, eGovernment, Social fraud, Social penal code

Paper type Case study

Introduction

The turn of the century saw a growing enthusiasm regarding the quest for more transparency and accountability within both public and private administrations based on a digitization of administrative procedures. An impressive body of legislative, administrative and technical procedures and standards appeared in the period 2000-2005 (freedom of information laws across the European Union, Sarbanes–Oxley Act in the USA, international ISO norms on records management and so on), providing the necessary framework to put this enthusiasm into practice on the ground. The industry for its part also made important steps forward, and the market space for document and records management underwent some drastic changes. The year 2005 saw the arrival of Alfresco, for example, and during the same period, Microsoft launched its marketing campaign for SharePoint, whereas EMC Corporation launched its own for Documentum.

Fast forward to the year 2015. How has the situation evolved over the past decade? We must acknowledge that the eGovernment[1] and e-services landscape has not reached the maturity envisioned ten years earlier. Lappin (2010) describes the collapse of the electronic documents and records management system (EDRMS) orthodoxy, and Millerand and Bowker (2009) detail the complexity of standards implementation.

Based on these observations, this article critically examines the reasons behind the poor implementation of e-services and in particular of the document and records management procedures. With the help of a concrete and relevant case study, the authors examine how cross-organizational differences in the implementation speed of digital workflows can hinder the uptake of innovative e-services.

Instead of validating hypotheses, this research aims at acquiring hands-on knowledge from practitioners in the field (Flyvbjerg, 2006). To this end, the Federal Public Service (FPS) [2] Employment, Labor and Social Dialogue has been chosen as a reliable source of information for two main reasons:

- (1) The FPS Employment has taken the lead in an ambitious project of administrative procedures automation.
- (2) Because it has initiated, given its particular pioneer role, a critical change in legislation is observed: the recognition by legal texts of equal probative value of electronic statements of offence (e-PV) signed with an electronic signature as of its paper version.

This is called in legal terms “the assimilation principle”.

In the first section of this article, the authors will draw up an overview of the current situation to place the case study in the eGovernment context. After an explanation of the methodology used, the second section will deal with the legislative, records management and administrative contexts of the e-PV project. Then, preliminary findings and results of the study will be drawn. Finally, the conclusion intends at pointing out the keys to success for records management projects not only within an institution’s workflows but also and above all within cross-organizational workflows.

Records management to support the development of eGovernment strategies

With the increasing use of personal computers in the past 40 years, along with electronic records, significant challenges arose in different activity areas. Improving efficiency or making savings, while at the same time avoiding – or at least reducing – the use of paper, has always been an objective for public and private services. However, there is a consensus on the belief that the paperless office tends to be more a myth than a reality (Sellen and Harper, 2003). Paper-based and electronic-based records still coexist nowadays, and this coexistence is even sometimes mandatory. Some reasons, regardless of the sector, can be pointed out: the lack of a general legal framework for electronic signatures, records or data; the need for a true mindset change originating in the perceived uncertainty of the digital environment; and the difficulty to obtain support of the top management as a result of a lack of convincing analysis about the potential direct and tangible benefits that the implementation of a records management and archiving strategy might offer.

Concerning the history of information systems applied to the management of administrative entities, Volle (2006) identifies three phases, which still coexist nowadays:

- (1) a first phase in which IT applications are custom-developed to perform one specific task and work independently from each other;
- (2) a second phase in which information systems rely on centralized reference data sources; and
- (3) a third and final phase in which business policies and workflows are integrated, and at the same time the management of procedures is automated.

Records management was naturally impacted during these phases because of electronic and automation developments but also of laws, rules and standards edited in this way. The recent revised version of ISO 15489 tends, moreover, to meet these challenges. More specifically, in the context of eGovernment development strategies and the increasing demand for transparency and accountability, public services are accustomed to the political will and the economic necessity of using electronic tools, not only to perform back-office activities but also, with the increasing use of the internet, to facilitate internal and external communication (Foley and Alfonso, 2009). Developments aim both at reducing financial and labor costs, and at improving services toward and interactions with citizens (G2C), with industries (G2B) and between government agencies (G2G).

The OECD (2003) points out a crucial issue concerning the collaboration networks that can arise from eGovernment strategies: how to collaborate more effectively across agencies to address complex shared problems, wherein the term “shared” is the key. As soon as institutions are in contact with external interlocutors – and this is unavoidable – they have to collaborate. If they do not share the same tools, they must at least ensure interoperability of their systems and practices. However, it is not sufficient to develop a great application if a more global reaction does not follow. Some studies prove that maximum benefits arise when

IT investment is accompanied by other “transformational” changes, such as organizational re-engineering or restructuring (Foley and Alfonso, 2009).

In this regard, the importance of records management in every governmental agency must be acknowledged and promoted. The life cycle of a record begins with the very first steps of its creation, and the strategy to follow must be defined from these early stages onwards, while taking into account the working processes that will follow. Creation and classification procedures as well as metadata schemas are crucial, among other tools. As in many fields – if not all – a record in government administrative affairs is destined to be shared between services within a single agency but also between agencies. Data management tools and a secure data exchange must be included in a joint strategy of eGovernment development and information governance in the concerned agencies. Because each of them have their own capacities, limitations and operational context, it may be complex to establish a global efficient records management strategy.

Even if Belgium appears to advance fast on eGovernment initiatives, there is still much room for improvement. Available services mainly cover citizen and business information such as the electronic identity card (e-ID) and the database for enterprises[3]. However, bilateral communication services between public administrations and citizens or private organizations are scarce. Some legal texts, such as the “Only Once law”, some services, such as “TaxOnWeb”[4] or “Police on Web”[5], and the BELGIF Interoperability Framework (BELGIF) initiative[6] are promising but, unfortunately, not sufficiently widespread to count as a deeply rooted eGovernment strategy. With its eyes on the 2020 Horizon and the European *Digital Society and Economy Index*, the current Belgian Government has launched a digital agenda, hoping for improvements in digital infrastructure, security, economy, government and jobs[7].

Methodology

From a horizontal point of view, research is conducted with an interdisciplinary approach, closely combining information sciences and law. Within information sciences, the interdisciplinary approach is also 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 Couture (1994) to anticipate the long-term preservation of records, for instance, in appraisal and disposal process modeling, during which the primary and secondary value of records should be jointly taken into account.

From a vertical point of view, the HECTOR (Hybrid Electronic Curation, Transformation and Organization of Records) [8] project adopts a bottom-up approach to take into consideration the particularities of hybrid records management and to meet the concerns of federal administrations. As a starting point, the project is based on an exploratory analysis of a selection of relevant and generalizable case studies within Belgian federal administrations representing users of hybrid records. Two levels of research have been established:

- (1) the record level – the statement of offence – for which the FPS Employment is one of the case studies analyzed; and
- (2) the file level, which is still in progress.

For the case study of FPS Employment, the four researchers of the team met seven people, sometimes several times each, who are involved at different levels in the e-PV project. The interviews lasted for nine months (between September 2014 and June 2015) and were based on two complementary questionnaires sent in advance to the interviewees: the first one

analyzes the general context of the agency and its records management strategy, and the second one analyzes the statement of offence management.

Firstly, researchers interviewed separately the project manager and the legal experts that have participated in the development of the project. The goal was to obtain general information about the organization – its mission, structure, workflows and so on – and about the e-PV project (goals, partners, deadlines, requirements specification and so on).

After these first meetings, researchers met two social inspectors, working in two different agencies, who deal with the e-PV application on a daily basis. Here, the goal was to take into account their impressions and comments and to compare theory at a management level and practices at a records creator and user level.

Finally, researchers met the project manager and an IT architect from Smals[9] to gather more technical information about the e-PV database and its further development. All the interviews' transcriptions and supporting documents were condensed in a global research report which supports the analysis.

Case study

Introducing the FPS employment and the statement of offence (e-PV) project

Under the auspices of the Ministry of Employment, Economic and Consumers affairs[10], the FPS Employment – in charge of every issue regarding social affairs – has to guarantee that the social law[11] is implemented in each and every institution – small or big, public or private – in Belgium. Every litigious situation requires an investigation, based on a complaint or a statement registered by the Police services or a social inspector (see below), and implies that a statement of offence is established.

To save resources, to facilitate communication between internal and external services and other stakeholders and to profit from the benefits of electronic document and records management, the FPS Employment decided to launch a global project aimed at creating a fully digital file for inquiries. The first step of this project was the creation of an electronic statement of offence (hereinafter, the e-PV), which would result in the e-PV project in 1999. That year, a working group was set up to address issues related to Social criminal law[12]. This group sought to improve the way in which Belgian administrations, notably the social investigation services, fight social fraud and illegal employment in Belgium.

During the development phase of the project, at least six working groups were created to report on different topics such as IT, legal, communication or budget matters, but none of these groups focused on the records management. Eventually, in 2009, the implementation of the project took off among its first four partners: Monitoring of Social Laws (CLS), Social Inspection (IS), National Office of Employment (ONEM) and National Office for Social Security (ONSS). This phase would last until 2011, the year when all the efforts were rewarded by the “*eGov-award rentability*” awarded by the Federation for the Technology Industry, AGORIA (Belgium)[13].

Between 2013 and 2015, new partners joined the e-PV project: the social inspection services of the Walloon Region and of the Brussels-Capital Region[14]. Thus, a project that was originally a federal initiative has become a shared initiative between federal and regional inspection services.

Legislative context

The study of the legislative framework linked to eGovernment initiatives and more specifically to the e-PV project was a necessary step to fully understand the legal background on which these initiatives are performed.

Indeed, parallel to the modernization of public administrations, similar actions need to be taken in the legal field to go alongside, to stimulate and to enhance the efficacy of the

aforementioned technical improvements. Indeed, the legal framework adapted accordingly is essential and should play a key role in these changes.

Rules applicable to eGovernment initiatives. Several sets of rules, which are not consolidated in a single body of rules, are simultaneously applicable to eGovernment initiatives. This lack of consolidation leads to inconsistency, difficulties of understanding and incompleteness. Also, they are issued by both the federal authority and the federated entities, and by both the legislative and the executive authorities (Degrave, 2014).

Those sets of rules applying to all administrative entities in Belgium are mainly:

- The rules based on several laws and developed by the doctrine imposing specific requirements such as the respect of the legality, the transparency and the control of the administration.
- The rules protecting the right to private life and to the protection of personal data, notably the Law of the 8th of December 1992 on the protection of privacy with respect to the processing of personal data. When this law was about to be adopted, the Privacy Commission recommended to create specific rules for the administration. This recommendation was nevertheless not followed by the Belgian legislator, unlike in other European member states, such as Germany or Spain (Degrave, 2014).
- The Only Once Law (Law of the 5th May 2014) which guarantees the principle of single data collection in the functioning of the services and agencies or the performance of certain tasks for the authority and introducing simplification and harmonization of electronic forms. This text obliges Belgian public administrations to ask for citizens' (and enterprises') personal information "only once" to improve information management efficiency and to reduce the amount of duplicates. A direct consequence of the principle of "only once collection of information" is the principle of "indirect data collection". By virtue of this principle, if the information has already been requested from the citizen (or enterprise) and is available in one of the administrations, the administration which needs this information is not allowed to ask for it again and must turn to the administration that first received the information.

Although Belgian eGovernment initiatives must comply with several sets of rules, which can be confusing, many European countries have adopted one specific law legislating different aspects of eGovernment, such as France or Germany. Most of these legislations provide "technical measures aiming at ensuring the data security and systems interoperability" and address the principle of "administrative simplification in order to improve administrative procedures for the citizens" (Degrave, 2014).

Rules applicable to the e-PV. More specifically, the legislative context of the e-PV is linked to the codification, since the 1st of July 2011, of all the criminal provisions in social law into one code: the Social Penal Code. This Code contains all penal provisions concerning labor and social security laws and forms an attempt to simplify and clarify the use of such laws.

Less than a year after the Code entered into force, a new Chapter 5 dedicated to the electronic exchange of information between stakeholders fighting illegal employment and social fraud was added by the Law of the 29th of March 2012. Thanks to this initiative, an e-PV with a qualified electronic signature would have the same probative value as a statement of offence in paper format signed in writing. Thus, social inspectors are legally obliged to draw up an e-PV by means of the e-PV application developed for this purpose. In addition to this application, the system also has two databases, the e-PV database and the GINAA database. Both are governed by the Law of the 8th of December 1992 concerning personal data protection mentioned above, in particular the rules about access to databases.

Furthermore, article 100/3 of the Social Penal Code provides that the e-PV has to be signed by a social inspector by means of an electronic signature created with a Belgian e-ID, or any other system, according to a Royal Decree, by which identity of the signatory can be established without any doubt and the integrity of the signed e-PV be fitted with solid guarantees. This implies the use of an advanced electronic signature at least or the use of a qualified electronic signature at best.

Once signed by the inspector, the e-PV becomes a definitive version and cannot be modified. The final objective is to enable social inspectors to send the e-PV by electronic means to all the concerned stakeholders (generally the crown prosecutor, the offender and, where necessary, the employer and the board of administrative fines).

Currently, this electronic exchange is not possible because the concerned administrations and the citizens are not necessarily equipped to receive the e-PV by electronic means. Thus, a transitional period has been established for all the stakeholders to get ready regarding their digital infrastructure. During this period, the signed e-PV is printed, (manually) signed again and sent to the mentioned stakeholders by regular post. This period was supposed to end on the 31 December 2013, but has been extended three times already; the new and most recently announced deadline being 31 December 2016 (Losdyck and Vanreck, 2015).

Records management context

The main idea of the e-PV project is to allow the creation and preservation of an electronic record supporting the probative value of this kind of administrative and legal document. Procedures regarding social investigation among the different services were not homogeneous; each service at federal and regional levels had created its own statement of offence forms and used them according to non-systematic and different working processes. These processes were based on a paper-based and silo mentality, which needed to be adapted to the new digital environment. As a consequence, the exchange of information between these services and between them and the courts was troublesome and resulted in an inefficient processing of the cases.

The coordinated efforts of the FPS Employment, of social inspectors and of labor auditors has led to the development of a uniform statement of offence template and an online application to automate the procedure: the e-PV application developed and hosted by Smals. In terms of records management, this standardization between stakeholders could be an answer to the conclusions in Jeuniaux *et al.* (2015) who state that having many stakeholders related to the same record can impact its completeness, usability, correctness and traceability.

Unlike in English-speaking countries such as Australia or USA, records management is not so developed in Belgium. Only now are few isolated initiatives taking place which are slowly changing more traditional mentalities and practices. However, there is rarely a records manager involved in these initiatives, which is confirmed by the fact that this field of expertise was not taken into account in the development of the e-PV application.

The main reason invoked for this absence seems to be a lack of long-term vision. The records management issues, such as disposal rules or preservation formats, were not taken into account, or were just partially considered. For instance, an IT expert would ask the researchers why should they implement portable document format archivable (PDF/A) if the integrity of the record is already assured by an electronic signature. For federal administrations, the legal period is established by the retention schedules elaborated by the State Archives of Belgium. These schedules define the extent of both the semi-dynamic phase and the static phase of the life cycle of records and files; however, these retention rules are not integrated in the e-PV application or in any other

system of the institution, as it is not a priority for the project's stakeholders. Indeed, as the retention period for the majority of the statements of offence does not exceed seven years from its creation date, the developments were thought for the immediate use mainly. Moreover, the main recordkeeping task is considered to be the purview of the courts. Although the FPS Employment has taken into account the recommendations made by the State Archives and has decided to generate the e-PV record in a widely used format (PDF format), the various formats of the appendixes still cause problems (texts, images, etc.).

Mainly for practical reasons of document exchange, investigation services participate in a hybrid records management process, which alternates the management of paper-based and digital records within the same workflow. To assess the application from a records management perspective, researchers have evaluated it according to the requirements proper to a record developed in the ISO standard 15489. In this sense, the authenticity of the record is guaranteed thanks to a private signing device and the resulting electronic signature of the person who has created the record. In addition, the workflow registers the time characteristics such as the creation time and the validation time. On top of strong access policies, a functionality that prevents users from modifying the e-PV once it is validated assures the integrity. Regarding usability, it is certainly assured because the e-PV can be consulted by all the authorized partners involved and can be shared between them in a secure manner. However, the usability might be threatened in the long term because of the format issue. Subsequently, reliability cannot be fully evaluated at this point because the application does not create a whole file, but one record, the e-PV. This fact affects the context of the record and its continuation. For the moment, even if the attached appendixes of the statement of offence can ensure it, not all the actions taken during a social investigation are linked to the e-PV within the system.

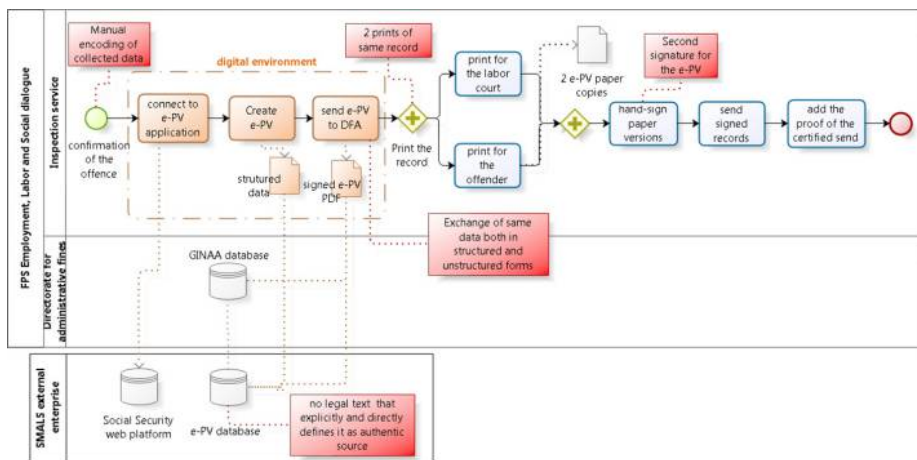
The statement of offence life cycle

The mentioned and improved procedure of the e-PV includes the creation, exchange and access to this record and all the data it contains within a hybrid process. To better illustrate this concept, the authors refer to the BPMN[15] models in [Figures 1 and 2](#).

[Figure 1](#) shows the sequential activities performed by social inspectors from the moment when they detect an infringement of social laws to the closure of the file that contains the e-PV. Thus, the life cycle of this record starts with its creation by means of the online e-PV. An e-PV record is created in eleven steps (see [Figure 2](#)), which includes the use of drop-down menus and automatic import of data from authentic sources[16], such as the National Register of Citizens, to help improve the information quality and reduce error rates. Moreover, it enables the user to add as many appendixes as required in any other format, such as pictures taken in the field at the moment when the inspection of a company has been held to document the facts of the offence, or hand-signed testimonies of employees interviewed.

Once the file is closed and depending on its legal course, it is archived by the producer if there is no need for undertaking litigation, that is, it is archived by the FPS Employment when the case is resolved by the payment of an administrative fine, or by the courts when there is a legal outcome pending. At the same time, the structured and unstructured digital data of the file, including the e-PV, is stored at least in both databases mentioned before, for the corresponding legal period: an e-PV central database which holds the statements of offence of all social inspections using the application; and an internal database, GINAA, which holds structured data of statements of offence from the FPS Employment.

The efforts put into the e-PV project aim at automating each and every step of the process and exchange of data mentioned above toward a future goal: the creation and



Managing electronic records

77

Figure 1.
e-PV workflow



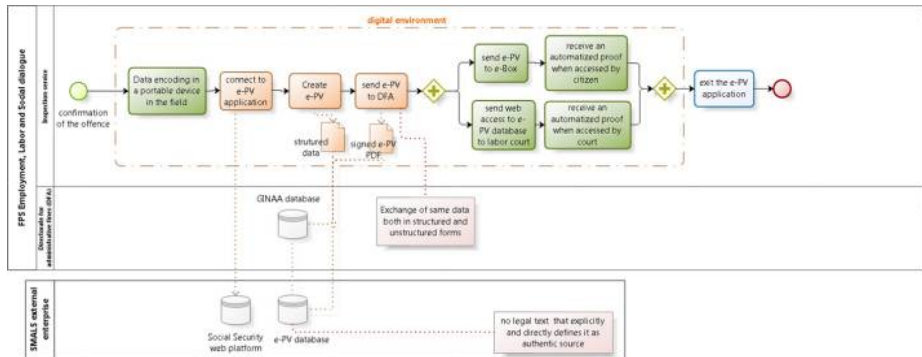
Figure 2.
Creation of an e-PV process

management of a fully digital file. In a first stage of the project, the FPS of Employment has managed to automate the entire workflow concerning the creation of the record as well as access to it by other inspection services from other administrations within the field of Healthcare and Social Security. As a consequence, this ministry has reached an incipient transformation phase (Baum and Di Maio, 2000) in a G2G context of the eGovernment strategy and thus a critical point that can only lead to the extension of the strategy toward G2C relations.

Indeed, in a second stage, there are plans to extend the project to a G2C level through the implementation of a so-called e-box for citizens as well as the automation of digital data exchange at the G2G level and thus beyond the borders of Healthcare and Social Security administrations, which has direct implications with the federal police and the labor auditors, and thus the Belgian courts and the Ministry of Justice. This desired scenario might look as Figure 3.

From a records management point of view, this application allows a thorough access control to and identification control of the statement of offence by means of the e-ID as well as its authenticity, reliability and integrity, thanks to the qualified electronic signature embedded in the mentioned e-ID. However, this is only the case once the author logs in the

Figure 3.
e-PV adapted
workflow



application and creates the electronic version of the record. There are two important gaps regarding the reliability and the integrity of the record in the workflow:

- the gap between the data collection in the field once the offence is confirmed and the creation of the electronic record; and
- the gap between the signature of the electronic record and the reception by the labor court of the paper-based record and its appendices.

These gaps are a direct consequence of the hybrid records management which is the cause and the consequence of the legal uncertainty that the existence of many originals and copies of the same record generates. Even though the legal risks that this situation entails seem low according to the interviewees, they do hold many doubts regarding which version of the record must be archived: the electronic statement of offence with a qualified electronic signature kept in the database of Smals? Or the paper-based hand-signed statement of offence kept by the labor court in their paper-based file? The underlying issue about which is the original and which is the copy and their respective value has been discussed by many experts (Duranti, 2014), but it has no satisfactory answer to the knowledge of the authors.

Analysis of results

The analysis of the e-PV project and of the interviews shows that there are real efforts in the Belgian public sector toward the automation of work processes and toward the creation of a solid legal framework that will sustain the technical and organizational advances which this automation involves. The platform that hosts this e-PV application is a solid environment for further applications to be developed to automate other processes of the organization and maybe for an independent electronic records management (ERM) application. Furthermore, the participation within this project obliged the involved stakeholders to rethink their existing working methods and prepare for future changes. However, this case study shows a worrying deceleration of the advances achieved so far, which has multiple reasons.

Public spending has been cut all over Europe, also in Belgian federal administrations. On the one hand, the improvement of IT infrastructure and expertise hiring programs is impaired by these policies within each administration and between administrations. On the other hand, it brings forward digitization projects which are often necessary, but are not always the best and sole solution. This fact would be better acknowledged and dealt with if a proper records management perspective was given to the matter. For instance, digitizing and automating do not help to better classify records and to make them more accessible if a file plan is not in place first. The e-PV project could have included a records management

working group in its plans, a group which would consider the consequences of the “hybridization” of the mentioned workflow in the file plan, the retention schedule and the users of the records. Questions such as when the e-PV database is appraised and, if need be archived, what is the link between this source of authentic structured data and the court’s archived file have not arisen until the researchers asked them during the interviews. In a digital environment, these matters need to be addressed from the creation of the record (Niu, 2014); this is the main reason why some records management functionalities must be included even in single-purpose applications and cannot be left for consideration within an electronic records management system (ERMS) solely, an argument already suggested by other court records management studies (Lowry, 2013).

Another well-known issue is the resistance to change among employees and employers alike, which is usually strongly rooted and has consequences that are difficult to identify and quantify in an initial risk analysis. Although the studied case shows a nice example of theoretical and practical training program which includes many tools and regular newsletters to inform users of progressive updates of the system, the resistance among some employees persists. The new e-PV workflow involves more rigid, homogeneous and strict document edition rules, better secured but slower electronic access to applications and databases, some difficulties related to the use of an e-ID-signature and a sometimes frustrating hybrid environment that duplicates tasks and records; these characteristics are some of the challenges that users face on a daily basis. Nevertheless, one can imagine that the automation of some records management processes, such as classification or deletion, could be implemented. In this sense, reducing both the impact of human error and the workload, can improve the quality of records management practices and facilitate their adoption among users.

At this moment of the project development, interviews with employees have shown how one specificity of the application is perceived as advantageous and disadvantageous at the same time. The possibility to connect online to the application from everywhere facilitates the collaborative work of the teams and working from home, while the highly secured connection by means of the e-ID offers the reliability employees need to trust this new digital environment. However, the technical problems that this online connection arises might be irritating if the workload is high. In the same way, this new application adds up to a bunch of existing applications, databases and tools that are not necessarily interconnected.

Furthermore, as seen in the previous sections, the FPS Employment has inevitable interactions with other external services, both up- and down-stream. These cross-organizational relations combined with a heterogeneous degree of autonomy in political decision-making that the different federal or local public entities possess (e.g. each investigation service dependent on different ministries or FPS) complicates the exchange of information. Therefore, interoperability of systems – both technical and for business processes – as well as a digital continuum are key success factors not only for the e-PV project but also for a general eGovernment strategy. This is the real challenge that Belgium must tackle. In this case study, the absence of common data models, formats and metadata or common classification, management, appraisal, disposition and retention rules make the technical interoperability and the preservation of the context and the chain of custody of the record a bigger challenge.

In this regard, another difficulty is linked to the legal uncertainty already mentioned in such fast-changing digital environment. For the moment, the rules applying to eGovernment derive from several sets of rules and specific laws. For instance, the adoption of the Chapter 5 of the Social Penal Code has enabled to clarify the legal value of the e-PV. But this legislation change has only had a limited impact in a very particular context. In the sectors in which no specific legislation has been adopted, the uncertainty remains regarding the value

of scanned documents or of scanned signatures, or regarding the rules applying to other eGovernment initiatives or, more specifically, the definition of authentic sources of data. This uncertainty is translated as a lack of confidence from users regarding the management of each version of the same record and its linked data. Some legal initiatives are currently taking place at the European or national level to increase users' trust in the digital environment (in the domains of data protection, electronic signature or even the value of copies). However, to our knowledge, the Belgian Government has not taken any initiative to draft a general legislation on eGovernment which contains and respects both the administrative and the data protection rules while taking into account the technological reality. Some may consider that such a legislation is necessary (Degrave, 2014).

Even though the authors' point of view is that there is a clear correlation between the benefits of the e-PV application with regard to eGovernment and those expected from a proper records management system[17], this is yet another case in which integration of both strategies has not taken place sufficiently. Thus, the absence of well-established records management policies might be a cause and a consequence of some of the mentioned reasons of poor implementation. The authors might be inclined to affirm that the reason of this non-integration is that short-term goals prevail in the government's efforts to improve efficiency. However, the analyzed project has lasted 15 years already. Therefore, the problem is more likely due to a lack of records management tradition in the analyzed administration and a lack of a well-defined role of records manager. Moreover, the absence of appraisal and preservation functionalities in the developed application shows how poorly the concept of records continuum is developed. A better records management would add at least two elements to an application which – let us remember this – is not an Electronic Records Management System and is not linked to this kind of system:

- More complete metadata to include the retention schedule information and the type and version of the format of the record and its appendixes. These metadata should improve the appraisal of the central database. Moreover, it might offer the possibility of an item-level management instead of a file-level management as authors such as Bearman (1996) first and Bak (2012) later propose. In this manner, the restrictions of physical objects in a virtual environment are surpassed to profit from temporary aggregations that serve specific purposes (Bak, 2012).
- A format control which enables a technical appraisal (Harvey and Thompson, 2010) of the records later in their life cycle but not too late either. Currently, the application users are able to choose all kinds of formats when it comes to appendixes. This action creates digital objects that might be difficult to preserve and that require a thorough technology watch afterwards.

These elements should go hand in hand with a well-defined appraisal and disposition policy to be applied to the central database and the paper-based file and ideally with an appointed records management officer who would have also the role of a *mediator* (Foscarini, 2010) between IT developers, managers and users. In the absence of an appointed officer, current employees in charge of the access and modification control might as well take on appraisal and disposition functions.

Nonetheless, collaboration efforts in this regard are starting to appear: a very recent federal initiative which involves many ministries and other key public institutions such as the State Archives and Smals consists of creating a digital archiving platform for records during the intermediate period of their life cycle. This project called “e-Archiving” is in its first stage, and surveys and tests are currently in progress. Such an initiative might help

filling the gap created by the lack of records management functionalities in the mentioned application.

Conclusion

During 15 years, the FPS Employment has developed an admirable initiative that shows how eGovernment services can help improve the efficacy of public services. Many positive consequences of the project bear on legal and records management aspects. Nevertheless, there are important limitations that this kind of initiatives yet have to overcome. The substantial differences between the many public administrations arise from a lack of interoperability not only at the technical level but also at the organizational level. The many local initiatives that this situation generates do not help making collaboration easier either. In this regard, there needs to be a coordinated effort among all the ministries and other mentioned key public institutions to make progress in the matter in a homogeneous way, so that the projects already implemented and other on-going ones can be fully successful.

Parallel to technological and organizational advances, a trustful legal framework has been developed for this project, which is a key element of the eGovernment principles. Especially because many public services and citizens will want to access and use these tools with the certainty of entering a secure environment.

Despite the fact that these changes are directly linked to the most basic requirements for a proper records management and archiving policy, it is regrettable that eGovernment initiatives and records management initiatives do not go hand in hand, even if some on-going projects show this is changing in the good direction. The importance of keeping records for the sake of transparency and accountability is clear and understood, and yet records management and preservation functionalities are not integrated in the analyzed e-PV application.

Notes

1. eGovernment can be defined as the use of information technologies, especially the internet, to improve government services for and interactions with citizens (G2C), businesses and industry (G2B) and different division of government (G2G) by simplifying processes, and by integrating and eliminating redundant systems (www.interpares.org/ip3/ip3_terminology_db.cfm?letter=e&term=1018).
2. FPS stands for Federal Public Service, which is the official name given to federal ministries in Belgium.
3. Banque Carrefour des Entreprises (BCE).
4. TaxOnWeb allows citizens and enterprises to fill in their tax returns online.
5. Online application via which citizens can file simple complaints.
6. The BELgian Interoperability Framework: www.belgif.be/ (last visited in September 2015).
7. Digital Belgium: www.digitalbelgium.be/en (last visited in September 2015).
8. Hybrid Electronic Curation, Transformation and Organization of Records – www.hector-project.be – A four-year project financed by the ministry of scientific research – BELSPO – within the framework program BRAIN-be.
9. Smals is a company expert in IT development which answers to the needs of public Belgian administrations, including database management and hosting.
10. Currently, Mister Kris Peeters.
11. “Social law” includes the labor law and social security law.
12. The goal of the social penal laws is to punish – by means of criminal penalties or administrative fines – breaches of labor and social security laws.

13. <http://agoria.be/fr/E-gov-Awards/Home>. The eGov Awards reward the best ICT projects implemented in the public services and related to the service to the citizens and to the enterprises. Those projects must also reflect a willingness to achieve administrative simplification, innovation and collaboration. The “eGov-award rentability” rewards the project, that not only achieved the most goals for the user and the public authority while being simple to use but that also created a maximum of values for the users and the public authority (in terms of reduction of administrative work, time saving, etc.). See the regulation of the eGov-award.
14. Belgium is composed of three regions: the Brussels-Capital Region, Wallonia and Flanders.
15. Business Process Model and Notation
16. There is no single legal definition of the authentic source in Belgium. One can nevertheless identify the common characteristics of the authentic source. It is a database (which involves the collection, recording, updating and destruction of information), designated as such by a law, which contains information relating to natural or legal persons that have a unique value in the administration and which is managed by a public authority, whose purpose is to allow the reuse of its unique data from other administrations by virtue of the principle of only once collection.
17. As a result of comparing Foley and Alfonso (2009) and ISO 15489 (International Organization for Standardization, 2001).

References

- Bak, G. (2012), “Continuous classification: capturing dynamic relationships among information resources”, *Archival Science*, Vol. 12 No. 3, pp. 287-318.
- Baum, C. and Di Maio, A. (2000), “Gartner’s four phases of e-government model”, available at: www.gartner.com/doc/317292/gartners-phases-government-model
- Bearman, D. (1996), “Item level control and electronic recordskeeping”, *Archives & Museum Informatics*, Vol. 10 No. 3, pp. 195-245.
- Degrave, E. (2014), “L’e-gouvernement et la protection de la vie privée”, *Légalité, transparence et contrôle*, CRIDS, Larcier, Bruxelles.
- Duranti, L. (2014), “Involuntary secondary permanence: do many copies replace the one original?”, Yale University Preservation Lecture Series, available at: www.youtube.com/watch?v=iIDN3fxlvsA
- Flyvbjerg, B. (2006), “Five misunderstandings about case-study research”, *Qualitative Inquiry*, Vol. 12 No. 2, pp. 219-245.
- Foley, P. and Alfonso, X. (2009), “eGovernment and the transformation agenda”, *Public Administration*, Vol. 87 No. 2, pp. 371-396, available at: <http://dx.doi.org.ezproxy.ulb.ac.be/10.1111/j.1467-9299.2008.01749.x>
- Foscarini, F. (2010), “Understanding the context of records creation and use: “Hard” versus “soft” approaches to records management”, *Archival Sciences*, Vol. 10 No. 4, pp. 389-407.
- Harvey, R. and Thompson, D. (2010), “Automating the appraisal of digital materials”, *Library Hi Tech*, Vol. 28 No. 2, pp. 313-322.
- International Organization for Standardization (2001), “ISO 15489-1:2001, Information et documentation”, Records management, Part 1: General.
- Jeuniaux, PPMJMH., Renard, B., Dubocage, L., Steuve, S., Stappers, C., Gallala, I., De Moor, S., Jonckheere, A., Mine, B., Vanhooydonck, B., Kempenaers, M., De Greef, C., Van Reterghem, P. and Vanvooren, V. (2015), “Managing forensic DNA records in a divided world: the Belgian case”, *Records Management Journal*, Vol. 25 No. 3, pp. 269-287.
- Lappin, J. (2010), “What will be the next records management orthodoxy?”, *Records Management Journal*, Vol. 20 No. 3, pp. 252-264.
- Losdyck, B. and Vanreck, O. (2015), “L’e-pv ou le procès-verbal électronique de constatation d’infractions en droit pénal social”, *Vie Privée et Données à Caractère Personnel*, Politeia, Bruxelles.

- Lowry, J. (2013), "Correlations between ICT and records policy integration and court case management system functionality", *Records Management Journal*, Vol. 23 No. 1, pp. 51-60, East African case studies.
- Millerand, F. and Bowker, G.C. (2009), "Metadata standards: trajectories and enactment in the life of an ontology", in Lampland, M. and Leigh Star, S. (Eds), *Standards and Their Stories: How Qualifying, Classifying, and Formalizing Practices Shape Everyday Life*, Cornell University Press, New York, NY, pp. 149-176.
- Niu, J. (2014), "Appraisal and selection for digital curation", *International Journal of Digital Curation*, Vol. 9 No. 2, pp. 65-82.
- OECD (2003), *The e-Government Imperative*, Organisation for Economic Co-operation and Development, Paris.
- Rousseau, J.Y. and Couture, C. (1994), *Les Fondements de la Discipline Archivistique*, PUQ, Punta Arenas.
- Sellen, A.J. and Harper, R.H.R. (2003), *The Myth of the Paperless Office*, The MIT Press, Massachusetts.
- Volle, M. (2006), *De l'informatique: Savoir vivre avec l'automate*, Economica, Sao Paulo.

Corresponding author

Fiona Aranguren Celorrio can be contacted at: fiona.aranguren@gmail.com

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com