

Reengineering of Press Distribution Monitoring in Greece: an Initiative of Greek Secretariat General of Communication and Information

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Abstract

Last decade research approaches have raised core issues of governmental process reengineering and e-government applications adoption. Interoperability issues also rise along with reengineering and a balanced solution is often sought.

In Greece, various initiatives and projects have begun in order to reorganize and reconstruct the core of public sector and the provided services to Citizens, Enterprises but also other public sector organizations.

This paper presents a project, currently under implementation, in the Greek Secretariat General of Communication – Secretariat General of Information, with the title of “Reengineering of press distribution monitoring”. Our project has modeled, redesigned and implemented the process of monitoring the co funded and non co funded distribution of all the newspapers and magazines edited in Greece and distributed either in Greece or abroad. An application was also developed so as to efficiently manage the transactions and enhance the interoperability between the Secretariat, the Editors and the Post Offices, offering a smooth and user-friendly integration of their activities.

1. Motivation

Last decade research approaches have raised core issues of governmental process reengineering and e-government applications adoption. Business process reengineering [3], although initially developed for and within the private sector, is an approach that can bring an evolution in public sector proceeding utilizing the Information Technology as a central part of reengineering.

However, interoperability is likely to be a main issue in the area of business process reengineering. Interoperability [5] is defined as the ability of two or more entities or systems to exchange information and to use the information that has been exchanged. Thus achieving Interoperability is considered as the key factor which will drive e-Business and e-Government to the next level by offering fully automated transactions that will be carried out without the need of any further actions. There are three basic types of Interoperability [1]:

- Technical (physical) interoperability involves the ability to share and exchange data. It requires data definition, a prior agreement on terminology, coding structures etc.
- Informational (semantic) interoperability involves the ability to share and exchange meaning. It requires data mapping, definitions and description of context.
- Organisational (business) interoperability involves the ability to share and exchange tasks, obligations and commitments. It requires data use rules, axioms etc.

In Greece, various initiatives and projects have begun in order to reorganize and reconstruct the core of public sector and the provided services to Citizens to Enterprises and to other public sector organizations handling various interoperability issues which still remain a big challenge to be tackled.

This paper presents a project, implemented for Greek Secretariat General of Communication – Secretariat General of Information [7], with the title of “Reengineering of press distribution monitoring”. Greek Secretariat General of Communication – Secretariat General of Information is a public service, supervised by Minister of Press, responsible, among others, for the Mass Media Legal compliance and Press Distribution Regularity. In particular, printed media

edited in Greece have to meet specific requirements set by the Secretariat, in order to be legally distributed. Furthermore, the postal distribution of press majority is funded by the Secretariat, accordingly to the legal compliance presented.

2. Main Objectives

The main objective of the project is to model, redesign and implement the process of monitoring the co funded and non co funded distribution of all the newspapers and magazines edited in Greece and distributed either in Greece or abroad. This process includes discrete transactions between the Secretariat, the Editors and the Network of Hellenic Post Offices. Our main task has been to deal with arisen interoperability issues in order to design and implement an automated, paperless workflow of the process.

3. Implementation

As mentioned before, there are three discrete actors involved in the process, the “EDITORS”, the “POST OFFICE” and the “SECRETARIAT”; the post offices are further separated as “PERIPHERAL” and “HEADQUARTERS” because they have different roles. These actors communicate with each other, forming three interfaces each one including three exchange flows (press issues, data, and funds). Further on, we will firstly describe the previous procedure, as documented during the project’s requirement analysis phase [2], in order to explain the project’s context but also in order to point out the disadvantages and problems comprised in the “before” situation. Consequently we will describe the new, redesigned procedure, underlining the points of amelioration in terms of computerization and interoperability.

The process is divided into two discrete sub-processes; the first is related to the “path” of one single issue tracing, from its printing to the registration into the Secretariat information system, and the second one is related to the yearly payment settlement between the post offices, who have pre-funded the distribution and the Secretariat who is the real financier of the activity.

These two sub-processes, in the “before” situation, were comprised by the following activities:

In the beginning of a year:

- The editor applies for a yearly certification.
- The Secretariat affirms or not the circulation for the year to come.

During the year:

- The editor forwards periodically his issues, for all his subscribers, to the peripheral Post office, one copy is sent to the Secretariat in order to be registered.
- The peripheral Post office forwards the issues to the subscribers and the copies to the Secretariat.
- The Secretariat manually registers the issues in the database.

At the end of the year:

- The peripheral offices forward claims of payments to the headquarters.
- The headquarters aggregate the claims and forward a claim to the Secretariat.
- The Secretariat decides for the amount to reimburse to the post office.

This process embodies several points where tracing of activities is blurred, introducing errors to the “path” and accumulated further on. Firstly, the editor sends issues without any control, the only way to know if a specific issue should have been sent is when it arrives at the Secretariat, but then it is already late because the post office has already funded the distribution and will claim for that amount. Secondly, having no standardized way to refer to issues, the claims made by peripheral offices to the headquarters and from the headquarters to the Secretariat are of an aggregative nature and cannot be broken down and analyzed. The interoperability during that “old” process was accomplished by unstructured data files and spreadsheets. Further on some other problems were apparent, not related communication between actors but concerning the work at Secretariat level, the registration of issues was a manual time-consuming procedure and also data entry errors were easily introduced.

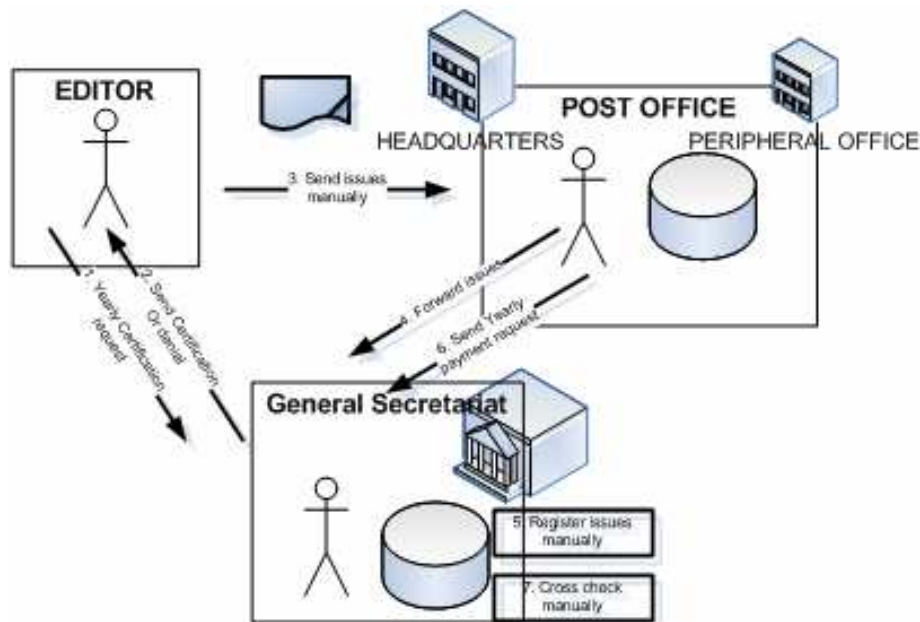


Figure 1. The “old” process.

These interconnection problems, being a core concern of the Secretariat, have been the main issues the new, redesigned, process dealt with. The concept was not to change the nature of work but to support it and enhance it with new technologies. The new process is comprised by the following activities:

In the beginning of a year:

- The editor applies for a yearly certification.
- The Secretariat affirms or not the circulation for the year to come, sending also a printed set of barcodes, indicating the issues to be circulated during the year, based on the nominal periodicity for that specific press release.
- The Secretariat forwards a list copy of that set of barcodes to the Post office so that it is aware of the “expected” issues the year, thus it will deny circulating unauthorised issues, avoiding unexpected, by the Secretariat, expenditures.

During the year:

- The editor forwards periodically his issues to the peripheral Post office, every time an issue is circulated, a copy “tagged” with the corresponding barcode is sent to the Secretariat.
- The peripheral Post office forwards the issues to the subscribers, and the “tagged” copies to the Secretariat.
- The Secretariat registers the issues in the database using barcode readers, the issue is automatically registered and the corresponding barcode is marked as “received”, so during the year the Secretariat can monitor and not accept, “unexpected” issues.
- The Secretariat uses the system in order to check and validate canonical (periodical) issues circulation; this is an important, value adding feature because canonical circulation is an important criterion of interrupting an editor’s right to circulate funded issues.

At the end of the year:

- The peripheral offices forward claims of payments to the headquarters. These claims are based on the list published by the Secretariat and sent to every peripheral office at the beginning of the year, so claims are based on cross-checking, initially expected circulations with ones actually implemented.
- The headquarters aggregate the structured claims and forward a claim to the Secretariat.
- The Secretariat decides for the amount to reimburse to the post office, electronically cross-checking lists with issues actually registered during the year.

During the previous descriptions, some of the interoperability and technology related improvements were pointed out, which are recapitulated, along with some more in the following list:

- Barcode technology [4] was used in order to support issues registration. A unified bar-code based mechanism was implemented in order to uniquely identify every single issue along its circulation among different organisations.
- XML technology [6] was used when exchanging data, offering computer friendly files that are imported and manipulated automatically.
- Automated fax technology was used in order to accelerate information dissemination, faxes are generated and sent by the system in order: to inform editors about the acceptance or not of their application, to inform editors and post offices about the expected issues of the year, to inform editors about interruption of their certification.
- Advanced data manipulation techniques were implemented in order to cross-check claimed issues circulation with actual registered issues and also to check the issuance periodicity.

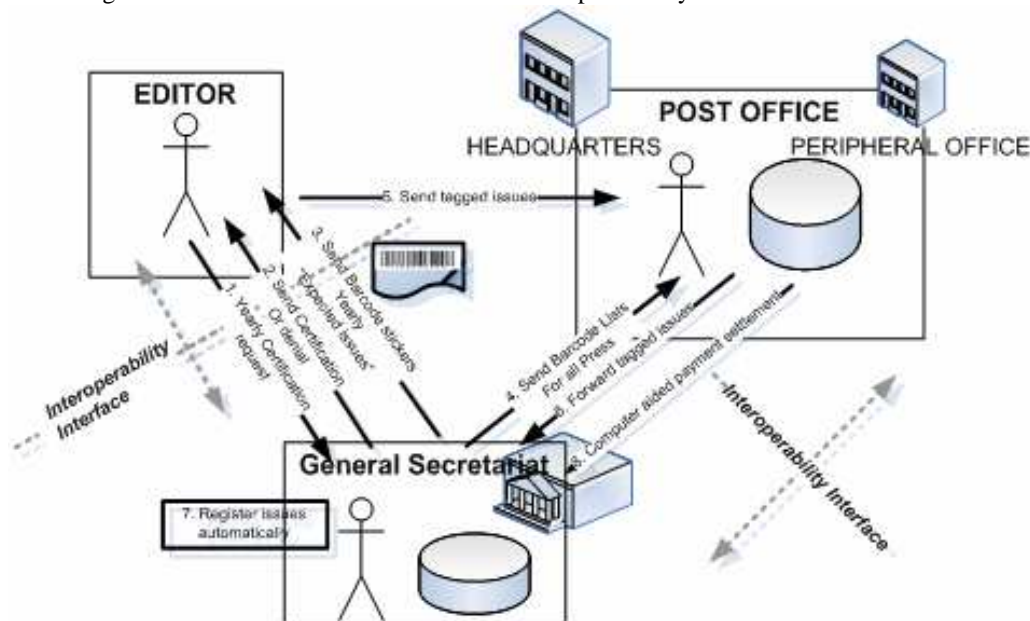


Figure 2. The redesigned process.

4. Results and Perspectives

Our project can be regarded as a success in public sector of a country where e-government and BPR projects have been recently introduced.

Strong Points

- Back office system of Press Department of the Secretariat has been fully reorganized eliminating paper work.
- Data exchange and retrieval has been automated through XML structured Documents design and use.
- Monitoring of postal press distribution has been automated through Barcode stickers use and automatic updates to the Barcode Lists in peripheral post offices.

Weak Points

- The financial part of the process (execution of the payment for the subvention of postal press distribution) has not been automated in the context of our software application.

Perspectives

Our project has enabled the press distribution monitoring and the proper interoperability between all the contributors of the process. Further development plans include the fully automated payment for the subvention of postal distribution enabling connection services with e-banking infrastructures.

5. Acknowledgements

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6. References

- [1] Christian Galinski, "Semantic Interoperability and Language Resources: Content Development under the Aspect of Global Semantic Interoperability", *3rd Eastern Europe e-Gov Days 2005, Budapest, 17-18 March 2005*.
- [2] Deliverable D1.1 "Requirement Analysis", *Project: "Reengineering of press distribution monitoring", NTUA, 2006*.
- [3] Kim Viborg Andersen, "Reengineering Public Sector Organisations Using Information Technology", *Research in Public Policy Analysis and Management, Volume 15, 2006, Pages 615-634*.
- [4] Sherin M. Youssef and Rana M. Salem, "Automated barcode recognition for smart identification and inspection automation", *Expert Systems with Applications, Volume 33, Issue 4, November 2007, Pages 968-977*.
- [5] Sotirios Koussouris, Aikaterini Maria Sourouni, Kostas Kalaboukas, "Generic Process Models for e-Business Transactions in Heterogeneous Systems", *PCI2007 Conference, Patras, 2007*.
- [6] T. Bray, J. Paoli, C. Sperberg-McQueen, "Extensible markup language (XML) 1.0.", *Technical report, W3C Recommendation, 1998*.
- [7] www.minpress.gr/minpress