

Encyclopedia of Digital Government

Ari-Veikko Anttiroiko
University of Tampere, Finland

Matti Mälikä
The Police College of Finland, Finland

Volume II
E–H



IDEA GROUP REFERENCE
Hershey • London • Melbourne • Singapore

Acquisitions Editor: Michelle Potter
Development Editor: Kristin Roth
Senior Managing Editor: Jennifer Neidig
Managing Editor: Sara Reed
Copy Editors: Richard T. Carns, Julie LeBlanc, Joyce Li, Evelyn Martens, Shanelle Ramelb, April Schmidt, Becky Shore, Sue VanderHook, and Larissa Vinci
Typesetters: Diane Huskinson
Cover Design: Lisa Tosheff
Printed at: Yurchak Printing Inc.

Published in the United States of America by
Idea Group Reference (an imprint of Idea Group Inc.)
701 E. Chocolate Avenue, Suite 200
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@idea-group.com
Web site: <http://www.idea-group-ref.com>

and in the United Kingdom by
Idea Group Reference (an imprint of Idea Group Inc.)
3 Henrietta Street
Covent Garden
London WC2E 8LU
Tel: 44 20 7240 0856
Fax: 44 20 7379 0609
Web site: <http://www.eurospanonline.com>

Copyright © 2007 by Idea Group Inc. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher.

Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI of the trademark or registered trademark.

Library of Congress Cataloging-in-Publication Data

Encyclopedia of digital government / Ari-Veikko Anttiroiko and Matti Mälikä, editors.

p. cm.

ISBN 1-59140-789-3 -- ISBN 1-59140-790-7 (ebook)

1. Public administration--Information resources management--Encyclopedias. 2. Electronic government information--Encyclopedias. 3. Internet in public administration--Encyclopedias. I. Anttiroiko, Ari-Veikko. II. Mälikä, Matti.

JF1525.A8E63 2007

352.3'802854678--dc22

2006010087

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this encyclopedia set is new, previously-unpublished material. The views expressed in this encyclopedia set are those of the authors, but not necessarily of the publisher.

E-Government Program of the Belgian Social Security

Frank Robben

Crossroads Bank for Social Security, Belgium

Peter Maes

Crossroads Bank for Social Security, Belgium

Emmanuel Quintin

Crossroads Bank for Social Security, Belgium

INTRODUCTION

The Belgian social security consists on the one hand of three insurance systems (workers, self-employed workers, and civil servants), that cover a maximum of seven social risks (incapacity for work, industrial accident, occupational disease, unemployment, old age, child care and holiday pay—the so-called branches of social security), and on the other hand of four assistance systems (subsidies for the handicapped, guaranteed family allowance, minimum income, and income guarantee for the elderly), that grant people specific minimum services after checking their subsistence resources. In addition, a lot of public institutions at the national, regional or local level, or private companies entrusted with missions of general interest (e.g., energy, water, or public transport companies) grant benefits (e.g. tax or price reductions, free passes for public transport, etc.) to citizens based on their social security status.

In total, about 2,000 actors are responsible for the provision of social security and social protection in Belgium. More than 10 million citizens and 230,000 employers have very frequent contacts with those actors to claim their entitlements, provide information and pay their contributions.

BACKGROUND

In the mid-1980s, an in-depth analysis of the functioning of social security proved that (Robben & Deprest, 2003):

- The organization of social security offices' business processes was not very customer-oriented and was certainly not coordinated among the various offices.
- Each social security office had its own set of paper forms with accompanying instructions, on the basis of which information was requested that was specifically necessary to calculate the particular contributions or grant the entitlements in the light of the particular social risk; in total some 80 different paper forms were used for data exchange between citizens and employers on the one hand and social security offices on the other with a total of about 2,000 pages of instructions.
- No possibility existed for an interactive exchange of data between the citizens and employers on the one hand, and the social security offices on the other.
- A direct exchange of electronic data was also not possible between the personnel administration software of an employer and the information systems of the social security offices, which led to an unnecessary and error-prone manual re-input of information.
- Social security offices very often asked the citizens and their employers to request information that was already available at another social security office in the form of a paper document, and to produce that document, rather than exchanging the information directly among themselves.
- Citizens and their employers thus had to inform many social security offices of a single event, following different legal concepts and administrative instructions each time.
- Since the exchange of data occurred on paper, processing was expensive and time-consuming.
- Citizens and their employers themselves had to claim their entitlements throughout the social security system and could not count on the automatic granting of all entitlements on the basis of a single declaration.

- Citizens and their employers did not have the necessary tools for checking the quality of the information before this was reported to the social security offices; this resulted in a relatively high percentage of errors and numerous subsequent contacts for the correction of errors, which could have been avoided.
- This all led to a very heavy administrative load and accompanying expenses for employers, which resulted in a brake on entrepreneurship, a smooth economic development, and growth in employment.

PRIORITIES AND PURPOSES

The overall goals of the e-government program of the Belgian social sector are:

- to grant effective and efficient services with a minimum of administrative formalities and costs for all involved;
- to improve and radically reorganize the service delivery processes amongst the actors in the social sector, and between those actors on the one hand and the citizens and the employers on the other hand;
- to promote information security and privacy protection by the actors so that all the involved actors, citizens and employers can have justified confidence in the system; and
- to deliver integrated statistical information to the politicians and the researchers in order to support the social policy.

STRATEGIC USE OF INFORMATION

Information is a prime production factor for most government bodies. Government revenues such as taxes and social security contributions depend on data about the income of citizens and company revenues; elections can only be held based on information about people residing within a country's borders; benefits and subsidies are granted taking information about the living circumstances of the duly authorized person and his/her direct environment into account, and so forth.

Thus, it is very important that all government bodies deal with information as a strategic resource. This implies effective and efficient treatment of information in compliance with basic data protection regulations, such as the Directive 95/46/EC of the European Parliament and of the Council of October 24, 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (Official Journal, 1995).

The e-government approach within the Belgian social security sector (<http://www.law.kuleuven.ac.be/icri/frobben>) is based on a clear vision of the use of information as a strategic resource:

- **Information Modeling:** Information is modeled in a coordinated way so that the model fits as closely as possible to the real world. By doing so, changes to the information model due to changing legal environments are avoided. This modeling takes into account as much as possible the expected use cases for the information. It can be extended and adapted flexibly when the real world or the use cases of information change.
- **Unique Collection and Reuse of Information:** Information is only collected by a social security institution for well-defined purposes and in a proportional way to these purposes. All information is collected only once, as closely as possible to the authentic source. This way of proceeding avoids the frequently repeated identical questioning of the citizens or the companies by several actors in the social sector. The collection occurs via a channel selected by the person from whom the information is collected, but preferably in an electronic way, using uniform services such as single sign on, notification of receipt for each message, and so forth. Information is collected according to the information model and on the basis of uniform administrative instructions operational for all actors in the social sector. Ideally, the supplier of information has the possibility of controlling the quality of information before its transmission to an actor in the social sector. This requires the public availability of software to check this quality. The collected information is validated once in compliance with an established distribution of tasks, by the most entitled institution or by the institution that has the most interest in a correct validation. Information is shared with and reused by the authorized users after the validation process.
- **Management of Information:** A functional task sharing is established indicating which institution stores and manages which kind of information in authentic form and makes it available to all authorized users. Information is stored in compliance with the information model. Information can be flexibly assembled according to ever changing legal concepts, which have to refer to the information model. Each institution has to report probable improprieties of information to the institution that is designated to validate the information. Each institution that has to validate information according to the agreed task sharing must examine the reported probable improprieties, correct them when necessary, and communicate the

correct information to every known interested actor in the social sector. Information is only retained and managed as long as there exists a business need, a legislative or policy requirement, or as long as it has historical or archival value, and then it is preferably presented in an anonymous or encoded way.

- **Electronic Exchange of Information:** Once collected and validated, information is stored, managed and exchanged electronically to avoid transcribing and reentering it manually. Electronic information exchange occurs using a functional and technical interoperability framework which evolves permanently but gradually according to open market standards, and is independent of the methods of information exchange. Electronic information exchange can be initiated by the institution that possesses information, by the institution that needs information or by the institution that manages the interoperability framework, in this instance the Crossroads Bank for Social Security (CBSS). The available information is used proactively for automatic granting of benefits, for profiling when collecting information and for providing information to the persons concerned.
- **Protection of Information:** Security, integrity and confidentiality of information are ensured by integrating ICT measures with structural, organizational, physical, personnel screening, and other security measures according to agreed policies. Personal data are used for purposes compatible with the purposes of the data collection and are only accessible to authorized institutions and users according to business needs, legislative, or policy requirement. The access authorization to personal data is granted by an independent committee, after having checked whether the access conditions are met. The access authorizations are public. Every concrete electronic exchange of personal data is previously tested for compliance with the applicable access authorizations by an independent institution managing the interoperability framework, in this instance the Crossroads Bank for Social Security. Every concrete electronic exchange of personal data is logged, to be able to trace possible abuse afterwards. Each time the information is used for a decision, the information used is communicated to the person concerned together with the decision. Each person has the right to access and to correct his own personal data.

CONCRETE RESULTS

Taking the above mentioned principles into account, a global review of the processes throughout the whole

social security system has been carried out (Van Der Vorst, 2004; Viaene, Robben, Lahaye, & Vansteenberghe, 1986). To improve the service delivery to the citizens and the companies, the Crossroads Bank for Social Security was created in 1991. The mission of CBSS is to be the motor of e-government in the social sector (<http://www.ksz-bcss.fgov.be>).

The Crossroads Bank for Social Security manages and uses a reference directory, showing:

- which persons/companies have personal files in which social security offices for which periods of time, and in which capacity they are registered;
- which information/services are available at any social security office depending on the capacity in which a person/company is registered at each social security office;
- which kind of information/service can be accessed, in what situation and for what period of time depending on in which capacity the person/company is registered with the social security office that accesses the information/service; and
- which users/applications want to automatically receive what services in what situations for which persons/companies in which capacity.

The Crossroads Bank for Social Security uses this reference directory

- to ensure preventively that a social security office only gains access to data it is allowed to access, and on people who are known to it;
- to route data requests to the social security office that can supply the data in question; and
- to transmit data reported automatically to the social security offices that can use the data in question to fulfil their duties.

The actual result can be summarized as follows (Robben & Deprest, 2003):

- All social security offices are connected to a network for electronic information exchange managed by the Crossroads Bank for Social Security, and have a legal obligation to request all information available in the network from each other electronically; they can mutually consult their databases and exchange electronic messages.
- Socially insured persons and their employers now need to make only a single declaration to the social security system as a whole in the following cases:
 - No later than the start of an employment relationship, an employer has to declare when

(date and time) the employee in question takes up his or her duties.

- Every three months, the employer has to declare what income each member of his staff has earned.
- When a social risk occurs, socially insured persons or their employers need only to declare information about that particular social risk.
- No later than the end of an employment relationship, an employer has to declare when (date and time) the employee in question leaves the company.

More concretely, the introduction of this system led to the following (Robben & Deprest, 2003):

- About 181 types of paper documents which citizens or their employers had to request from one social security office to pass to another social security office have been abolished and replaced by direct electronic data exchanges between the actors in the social sector; in 2005, 500 million electronic messages were exchanged.
- About 50 types of social security declaration forms have been abolished.
- In the remaining 30 social security declaration forms the number of headings has been reduced on average to a third of the previous number.
- Many declarations are made directly and electronically from employers' staff administration software packs and accountancy software packs.
- Citizens and their employers can make all social security declarations on the basis of standardized concepts and standardized instructions, and need to report data to the social sector as a whole only once.
- The number of contacts between the citizens and their employers on the one hand and the social sector on the other, has been drastically reduced, with a significant time gain as the result.
- Personal services to citizens and companies are offered.
- A huge number of social benefits and subsidiary rights are automatically granted without citizens or their employers having to make declarations anymore.
- Hospitals and pharmacists are freed from encoding about 100 million paper certificates a year concerning the insurance status in the healthcare sector; they now can read them electronically on the social identity card.
- According to a study executed by the Belgian Federal Planning Bureau, the rationalization of the data

exchange processes between the employers and the social security offices implies an annual saving of administrative costs of more than 1 billion euros a year for the employers.

E

SUSTAINABILITY AND TRANSFERABILITY

The Crossroads Bank for Social Security actively shares its experiences with interested institutions in Belgium and abroad. The approach has been described in several public documents and has received a Good Practice Label within the e-government Good Practice Framework set up by the DG Information Society & Media of the European Commission.

In 2001, the general manager of the Crossroads Bank for Social Security was asked by the Belgian federal government to elaborate an e-government plan for the federal public services, based on the successful experiences in the social sector. This plan, that is now being executed and permanently updated by the Strategy Cell Federal Civil Service Information and Communication Technology (FEDICT), has extended the above mentioned vision of the use of information as a strategic resource to the whole Belgian public sector and contained, amongst others, concrete projects such as the delivery of an electronic identity card to all citizens, and the creation of a Company Register, of a federal service bus, and of an integrated portal environment.

FUTURE TRENDS

On its own initiative or on demand, the Crossroads Bank for Social Security will continue to extend its services to all actors in the social sector and to stimulate the reengineering of service delivery processes by creating value chains for the citizens and the companies based on a combination of back office integration and a user friendly front office. More concretely, the following projects are being executed

- The back office integration is continuously being extended to all public social welfare centers, to the sectoral complementary pension funds (private schemes supplementary to the legal old age schemes), to the institutions of the communities and regions entrusted with social missions, to the municipalities and cities and to the healthcare professionals; about 40 new types of electronic messages are planned.

- The automatic granting of benefits based on the social security status of a person will be generalized; indeed, a recently published law states that people who are entitled to complementary benefits on the basis of their social security status, as, for instance, a tax reduction, reduced telephone charges or a free pass for public transport, must not be asked anymore to submit a certificate; they are allowed to refuse the delivery of a certificate without losing the benefit; the institution that grants the complementary benefit has to consult the Crossroads Bank for Social Security to get information on the social security status.
- The Crossroads Bank for Social Security has proposed to the federal government the concept of the prefiled tax declaration of the natural persons; concretely, the tax declarations would be partially completed on the base of the data available in the social security network before being sent or presented on a portal to the natural persons; this would be a great step forward into administrative simplification.
- New electronic transactions will be developed for three target groups: the citizens, the companies, and the professionals of the social sector (e.g., the healthcare professionals); the transactions will be put at their disposal in an application to application mode or via portal sites; about 30 new transactions are planned, such as the online consultation of files and the online calculation of benefits; in that respect the electronic identity card will be used for electronic authentication and putting electronic signatures.
- The service delivery to citizens and companies will become multichannel enabled and be based on an integrated customer relation management; the services will be more personalized and self-service will be promoted
- Electronic payment facilities will be integrated in the service delivery.
- The use of the actual social identity card (the so-called SIS card) by all healthcare professionals will be promoted; the connection of the healthcare professionals to the network will also be stimulated; once these connections will be generally implemented and the electronic identity card will be delivered to all citizens, the social identity card can be abolished; the identification function will be taken over by the electronic identity card and the insurance status will be accessible via the network.
- An integrated e-workspace will be developed for the personnel of the actors in the social sector supporting among others knowledge management, document management, work flows, program and project management, e-communities, e-learning, and the

labour relation; the e-workspace will be accessible to authorized users from anywhere and at any time by the use of a Web browser.

CONCLUSION

The Belgian case was mentioned as a best practice in recent Web-based surveys on electronic public services ordered by the European Commission (Cap Gemini Ernst & Young, 2003). The success of the e-government program of the Belgian social security is due to the respect of a number of basic principles. As a conclusion, we want to put them forward as recommendations.

Do not look at e-government as a pure ICT event. Put the emphasis on an improvement of services and use a multidisciplinary approach. Have a good insight into the surroundings, the critical success factors and the stakeholders. Define a long term vision on integrated, customer-oriented service delivery, management of information as a strategic resource for all government activity, and interoperability. Optimize processes within each government institution, at each government level, and across government levels before their automatization. Standardize concepts and, where necessary, adapt regulation. Pay attention to change management, communication, and training.

Combine a long-term vision, profound process optimization and quick wins. Quick wins are useful to prove the efficiency of e-government and to motivate the public sector to change, but they have to fit with the long term vision. A race for quick wins does not stimulate development of well conceived systems based on reengineering.

Make the vision enforceable by citizens and companies and among government institutions, by formalizing it in regulation. Also adopt regulation to introduce uniform definitions of the information elements and attributes and the definition of legal concepts that refer only to the defined information elements and attributes, and to adequately regulate aspects such as privacy protection, information security, the protection against ICT crime, unique identification keys, the probative value of electronic information, the electronic signature, the equal access to public services, the transparency of administration, and so forth.

Make sure that available ICT components and information are reused to a maximum. Use already existing networks, means of electronic identification, authentication and authorization, interoperability frameworks and their accompanying basic services, portal environments, and the electronic information that is accessible from validated databases inside and outside of government. Through this, the efforts can be directed towards devel-

oping services with an added value, which are based on process improvements, while the multifunctional use of the same components is assured for all.

Also, develop multifunctional components, in conformity with open standards that are based on a flexible, modular, expandable, and service-oriented architecture, so that other developers of services can reuse the components.

See to a close cooperation with policymakers, other government departments, other governmental levels, users, mandated intermediaries and interest groups. Make sure that satisfactory consultations are held during regular contacts between the permanent representatives of the various stakeholders, so that a partnership is established.

Attune the service offer maximally to the needs and the logic of the users and involve them actively in the development of the services. Match the governmental processes with the own processes of the users. Assure user-friendliness.

Concentrate on a qualitative and interactive service offer, instead of a mere presence on the Web. Support users in the implementation of quality controls of the data, before these are transmitted to the government authorities, and use the available data proactively for an automatic granting of rights, prefiling of information in forms during data collection and a targeted provision of information to the users.

See to a good project management. Work incrementally and with prototyping, and give special attention to the roll-out by providing test and simulation environments, training and coaching for the users, and a multimodal contact center for the personal support of end-users.

See to it that proper measuring facilities are available, so as to assure permanent monitoring and improvement. Define the critical success factors in the area of performance, availability, quality, volumes, and effective use. Define the relevant measuring parameters for each of the critical success factors, the method and the frequency of such measurements for each indicator, and the reporting method. Assure that the measuring parameters are made available by the applications in the defined manner and in accordance with the frequency that was defined. Organize the follow-up procedures for measurement parameters, as a basis for permanent adaptation and improvement.

Make sure that the users have confidence in the electronic services that are provided. Develop an information security policy, which is designed to guarantee the availability, confidentiality, integrity, authenticity and auditability of the information systems. Give form to this information security policy in an integrated set of measures that warrant the basic principles with regard to information security.

REFERENCES

Cap Gemini Ernst & Young. (2003, January). Online public services: How does Europe progress? Retrieved February 6, 2006, from <http://www.capgemini.com/news/2003/0206egov.shtml>

Robben, F., & Deprest, J. (2003). *E-government: The approach of the Belgian federal administration*. Brussels: Crossroads Bank for Social Security & FEDICT. Retrieved February 6, 2006, from <http://www.law.kuleuven.ac.be/icri/frobben/publication%20list.htm>

Van Der Vorst, P. (2004). *Le paysage informatique de la sécurité sociale comme métaphore?* Bruxelles: Bruylant.

Viaene, J., Robben, F., Lahaye, D., & Van Steenberge, J. (1986). *Ebauche générale d'un traitement rationnel de l'information en sécurité sociale*. Bruxelles, Belgique: Service Public Fédéral Sécurité social.

KEY TERMS

Crossroads Bank for Social Security (CBSS): Public social security institution created in 1990; driving force and coordinator of e-government in the Belgian social security.

E-Government: Use of information and communication technologies (such as wide area networks, the Internet, and mobile computing) by government agencies with the capacity to transform relations with citizens, businesses, and other branches of government. These technologies can serve a variety of different ends: better delivery of government services to citizens (especially those living in remote or less densely-populated areas), improved dealings with business and industry, citizen empowerment through access to information, and more efficient government management. The resulting benefits may be greater convenience, increased transparency and accountability in public decisions, revenue growth, less fraud and/or cost reductions (World Bank).

Service Integrator: Body that is both the motor and coordinator of e-government initiatives at a specific government level or a specific sector of the public services.

Single Sign-On: Concept whereby a single action of user identification and authentication can permit a user to access several services or systems where he has access permission, and that are offered by one or more suppliers.

Interoperability Framework: Framework in which several systems can operate and communicate together by using common standards.

Reference Directory: A database containing the following information:

- which persons/companies have personal files in which government bodies for which periods of time, and in which capacity they are registered;
- which information/services are available at any government body depending on the capacity in which a person/company is registered at each government body;
- which kind of information/service can be accessed, in what situation and for what period of time depending on in which capacity the person/company is registered with the government body that accesses the information/service; and
- which users/applications want to automatically receive what services in what situations for which persons/companies in which capacity.