

Demonstrator on Calculating the Gains for Administrations and Citizens of Governmental Services Transformation towards interoperability

Introduction

Electronic Government is rapidly changing the way governmental services are provided to citizens and businesses, over the last years. Services are being transformed, back-office systems are interconnected, specialized service portals and governmental infrastructures evolve.

The reduction of administrative cost through the use of Information and Communication Technology (ICT) is currently a key priority in European Union and internationally. The innovative use of ICT can also make a significant contribution to achieving administration's sustainable development goals; a user-centric approach can contribute towards reduction in the administrative burden on administrations, businesses (especially SMEs) and citizens, can improve quality of life and can contribute towards trust in government and democracy.

In parallel with service digitization and administrative cost reduction efforts, interoperability is recognized as a key enabler for raising the productivity of the public sector both from an organisational and a technology point of view, going beyond the introduction of digital services. The cost reduction capabilities that cross-organisational collaboration and automated system communication is bringing, have been recently recognized both in governments as well as in the enterprise domain.

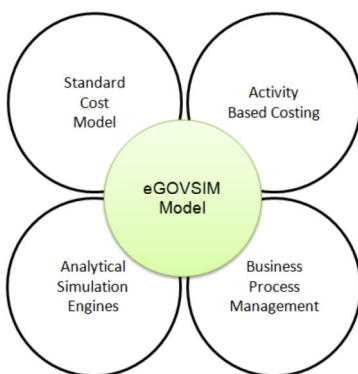
However, there is a shortage of analytical impact assessment tools, able to forecast the overall financial gains that will result from the costly ICT projects in the public sector.

Targeting systematic and formal methods for measuring the impact of interoperability on digital public services is emerging as an important research challenge in electronic government.

Scope and objective

The eGOVSIM model that is proposed by GIC aims to provide administrations with a tool to calculate the gains from digitising and making interoperable services for citizens and businesses. It provides a toolset for analytical cost calculations based on the various process steps and the information needs of each governmental service. The tool supports the definition of several service provision scenarios, such as front/back office system interoperability, cross-system or cross-organisational interoperability allowing the calculation of time, effort and cost elements and relevant gains from the application of each scenario.

Technologies/Tools



GIC research team proposes the eGOVSIM model which combines elements from

- Standard Cost Modelling,
- Activity-based Costing and
- Business Process Management

based techniques, providing a parameterisable environment for systematically calculating the overall gains for service providers and consumers, having the ability to evaluate several alternative service transformation scenarios.

Measuring the gains of interoperability scenarios

The eGOVSIM model is developed in five different sections, so that main functions can be loosely coupled and developed in parallel. The main components are:

The **Unitary Cost Parameters Builder**, where all the base cost parameters are declared.

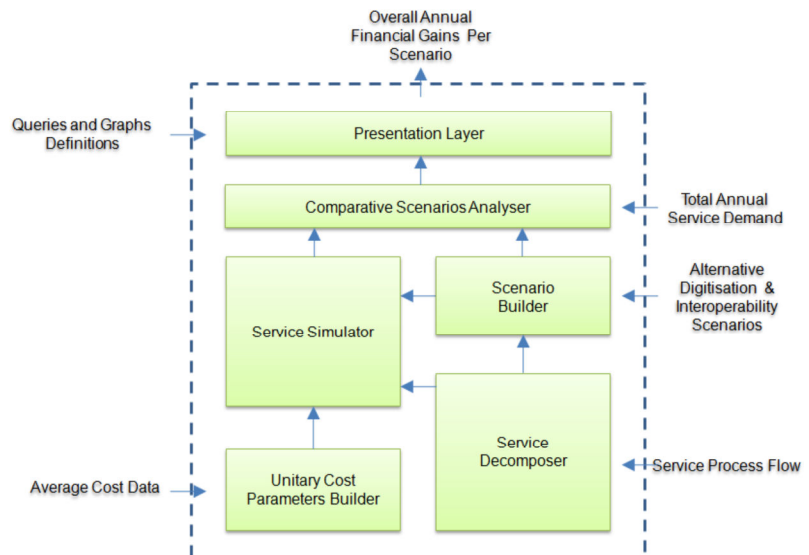
The **Service Decomposer**, where each service is decomposed into several process steps, usually following a previous analysis using a formal business process management methodology.

The **Scenario Builder**, where different scenarios for the digitisation, interoperability, automation and execution of the service can be declared.

The **Service Simulator**, which is the core calculation engine, multiplying and adding all cost elements, information needs, per phase, step and in total, for citizens/businesses or administrations, per different scenario, etc.

The **Comparative Scenarios Analyser**, providing for analysis of the overall costs per service scenarios and the comparisons between the results for each different scenario.

The **Presentation Layer**, implemented in a spreadsheet environment.



Application scope and research prospects

The eGOVSIM model is a proposal of a flexible, parameterisable and analytical tool for estimating the cashable financial gains that administrations and citizens or businesses might have from service on-line availability and sophistication. Through a combination of statistical data analysis to calculate unitary cost elements, demand data and analytical process decomposition, eGOVSIM can assist in making justified decisions for process reengineering in the public sector services

Further work is to be targeted around integrating the eGOVSIM model with Business Process Management platforms, so that different transformation scenarios will be evaluated close to the formal definition of the service flows, extension of the approach to include infrastructure and other third party ICT costs, and continued experimentation with services, in an effort to further calibrate the model with real data.