Chapter 36

Governmental Service Transformation through Cost Scenarios Simulation: The eGOVSIM Model

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ABSTRACT

Formal methods for measuring the impact of interoperability on digital public services is emerging as an important research challenge in electronic government. The eGOVSIM model that is described in this chapter aims to provide administrations with a tool to calculate the gains from digitising and making interoperable services for citizens and businesses. The chapter presents existing methods for calculating the cost of services for the administration and the service consumers, such as the Standard Cost Model (SCM) and the Activity Based Costing (ABC). Then it goes on presenting a toolset for analytical cost calculations based on the various process steps and the information needs of each governmental service. The eGOVSIM toolset 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. Application results for two cases / scenarios are also presented, so that the reader can see the applicability and overall value of the approach. Lessons learned and future research directions for service cost estimation are also described.

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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, while eGovernment researchers and practitioners claim that the administrative cost for each service provision is gradually lowering. The reduction of administrative cost through the use of Information and Communication Technology (ICT) is currently a key priority in European Union and internationally (EU/COM 2007, EU/EC 2007 and Gershon, 2008) as politicians realize the high costs of administration but also the immense potential of information technology to contribute to a more efficient administration.

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 reductions 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 such a rapidly changing environment, using ICT-based solutions to reduce administrative burden lie in the core of national initiatives and strategies in many countries (OECD, 2007), constituting fundamental political objective as a way to improve their economies and serve more efficiently and effectively citizens and businesses.

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 (IDABC 2009, Guijarro 2007 and Schrage, 2009), going beyond the introduction of digital services (Scholl, 2005). 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 (EC/INFSO, 2008) and (West, 2004).

Considering though the current status of service provision in public organisations, several deficiencies and imbalances can be recognized, the most important being:

• The methodologies, tools and techniques used at national and pan-European level among the public organisations are still immature to systematically support service transformation.
• 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, going beyond traditional costing approaches (Nelson, 1997).

The chapter is attempting to fill this gap, by proposing a generically applicable model for estimating the overall gains of service transformation, so that various scenarios can be properly evaluated. The eGOVSIM model is combining elements from Standard Cost Modelling (SCM, 2009), Activity-based Costing (Cooper 1992, Kaplan et al. 1997, Brown, 1999) and Business Process Management based techniques (Becker 2008, Charalabidis 2009), 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.

The chapter is organized as follows: Section 2 presents the basic cost elements of service provision for public administration and the recipient citizen or business. Then the main elements of the eGOVSIM model are presented in Section 3, focusing at the various capabilities of the approach. An application of the model is presented in Section 4, followed by discussion, conclusions and further research directions, in Section 5.
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