Chapter XIII
Ontology-Based Management of e-Government Knowledge

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ABSTRACT

In an effort to follow the new public administration roadmap but also invest in the sharing of knowledge, governmental organizations appear in a crossroad: a lot of knowledge has been created, organized and even digitized but still it cannot be considered available anywhere, anytime, for any citizen, business or other organization. The more scientists and managers study the issue, the more they realize that it is a question of "crossing the desert" than "jumping over the gap". Making governmental knowledge available to its final beneficiaries requires the design, development and deployment of a Federated Knowledge Registry, as the platform to cater for the formal description, composition and publishing of the governmental services canvas. Such a system will manage traditional or web services, together with the relevant electronic documents and the process descriptions, in an integrated schema. Touching upon all knowledge management processes from knowledge capture, knowledge sharing, to knowledge creation, the chapter goes beyond the methodology and tools used for developing such a system for the Greek Government, to the integration and the diffusion of eGovernment knowledge with the help of formal ontology definitions - capturing the core elements of the domain together with their main relationships.

INTRODUCTION

Today's private and public organizations come across a vast volume of knowledge and information. Public administrations are knowledge-intensive organizations. They host a particularly high percentage of professionals and specialized staff who command important domains of knowledge. This is particularly the case in ministerial departments, in the judiciary and in regulatory agencies. The necessity of efficient knowledge management is not only derived from this fact, but also from the high knowledge intensity of products and services, the continuous transformation and the special requirements and constraints of the public sector.

The concept of knowledge management (KM) is not new to the public sector; either intentionally or unintentionally, KM initiatives have always been integrated in government tasks, inseparable from strategy, planning, consultation and implementation (Metaxiotis et al., 2005a). More and more governments are realizing the importance of KM to its policy-making and service delivery to the public and some of the government departments are beginning to put KM high on their agenda. Societal responsibilities, for delivering public policy that benefit the common good further enhance the importance of effective KM in public services (Wiig, 2002). Furthermore, governments are under continual pressure from the society to increase their effectiveness and quality with fewer resources and better systems, by making use of ICT and web technologies (Metaxiotis et al., 2005b). E-Government is presented as a key solution towards this societal pressure for better public services delivery.

E-Government implies fundamental knowledge redistribution and requires a careful rethinking of the management of information resources and knowledge bases. Ample access to remote information and knowledge resources is needed in order to facilitate:

- Citizens' and businesses' oriented service delivery including one-stop service provision,
- Inter-organisational co-operation among governmental agencies
- Cross-border support for complex administrative decision making.

In this chapter, the authors, recognizing the importance of eGovernment and KM to devolve into the public administration sector, present a conceptual analysis of ontology-based management of eGovernment knowledge, define the ontological context of eGovernment knowledge, throw light on important aspects of this field and build avenues for future research.

The overall purpose of the presented approach is to provide for effective knowledge management within and during eGovernment transformation projects. Based on the fact that eGovernment transformation is engaging vast amount of diverse knowledge sources and elements, the presented approach is aiming to act as a propagation mechanism that would automatically diffuse the necessary knowledge, both within the public sector organisations and towards the final users of services. Such a mechanism would be able to provide citizens, businesses and public sector employees with the necessary pieces of knowledge in order to identify and use, but also compose and manage electronic services.

Touching upon all knowledge management processes from knowledge capture, to knowledge sharing, the chapter goes beyond the methodology and tools used for developing such a system for the Greek Government, to the integration and the diffusion of eGovernment knowledge with the help of formal ontology definitions - capturing the core elements of the domain together with their main relationships. Lessons learned include areas where technology meets society, such as the definition of eGovernment service category lists, life events and business episodes, government