The POWER-Light Version: Improving Legal Quality under Time Pressure

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Abstract. The Dutch Tax and Customs Administration conducts a research program Program for an Ontology-based Working Environment for Rules and regulations (POWER). In this research program that was started in 1999 and is sponsored by the European Commission (E-POWER) since September 2001 an ICT-based methodology has been developed that enables the formalization of legal sources and finally the design of legal knowledge-based systems. The full-scale POWER-method however although much less time consuming than normal software design methodologies is still too elaborate especially if we want to apply this method in legal drafting or policy making processes. We therefore created the POWER-light version, a variant of the POWER-method that helps to improve legal quality and can be used with relatively little effort and in short time. Although the POWER-light version lacks many of the advantages of the regular POWER-method (e.g. its verification, simulation and knowledge-based component generation abilities) it offers a first step. The POWER-light approach offers the tools to get the best possible legal quality given the time restrictions.

1 Introduction

One of the goals of E-Government is providing citizens with means to access the governmental body of knowledge. This knowledge is based upon legislation, but also incorporates the business policy and interpretation that is added to the explicit knowledge corpus as it is reflected in the many legal documents like the different laws, regulations, case law etc.

In the POWER research program (Program for an Ontology-based Working Environment for Rules and regulations) a method and different supporting tools have been developed that support the chain of processes from drafting to implementation. Central to the POWER-method is a formalization process in which the legal knowledge sources are captured and translated into formal models, which we refer to as POWER-models (see Van Engers and Glassée 2001). These formal models are the basis for the systems development process(in which we create knowledge-based components) that in many cases follows the modeling process. The POWER-models are also used to detect (potential) defects in the knowledge sources e.g. inconsistencies and circularities (see Spreeuwenberg et al. 2001). The formal models can be used for simulation of the effects of (new) legislation as well.

It is obvious that the initial legal quality has great impact on the quality of the (e-) governmental services that are based upon it. Simulation of legal effects and verification of the (legal) knowledge sources helps to improve legal quality.
In this paper we will give a brief description of the POWER-method. While this method already reduces implementation time and improves legal quality, it is still too time consuming if the focus of the POWER-user is limited to the political decision making process. In this process legislation drafters, sometimes working closely together with knowledge groups in the public administrations, have to produce drafts under enormous time pressure. This leaves almost no time to integrally apply the POWER-method. Therefore we designed a POWER-light version. This method is specifically suited to conduct a quick scan of legal quality and can be applied with very little effort. That way even in the pressure cooker of the political decision-making process it is still possible to perform a quality check on draft legislation. In this paper we will explain the POWER-light method and show some experiences with this method in a recent legislation drafting process.

2 Managing Corporate Knowledge

If we want to model the knowledge of public administrations or other organizations that execute regulations, it seems best to focus on the existing documentary knowledge sources first before eliciting experts in order to model the knowledge of a certain domain. In most cases these documents contain the ‘rules’ in the form of an informal (or pseudo-formal) representation, e.g. the income tax law. Interpretation of these informal expressions is needed. This interpretation reflects the opinions of the public administration and consequently influences the business policy.

We consequently have to capture the expert knowledge to establish the correct interpretation of these documentary knowledge sources. The experts are also consulted to understand the processes in which the domain knowledge is used. This process knowledge is expressed in process models.

Usually experts from different disciplines and backgrounds are involved in the knowledge specification processes. Their knowledge is made explicit with help of the knowledge engineers, knowledge that would otherwise have remained implicit. The knowledge can furthermore be specified in a way that makes it easier to establish its validity. In addition to improving the efficiency of constituency treatment in its operational units, the knowledge-based systems serve primarily as a dissemination vehicle allowing the DTCA to make more effective use of the knowledge of its sparse experts, while improving the quality of law enforcement\(^1\) in its operational units. The POWER program elaborates on that insight. The focus of the POWER program differs from ‘traditional’ knowledge engineering approaches (see for example Sudkamp 1988). In POWER we focus primarily on the knowledge specification. This specification can be used to create knowledge-based systems but this is just one application form. The POWER knowledge specifications are also used for enhancing the quality of legislation as well as for e.g. policy-impact analysis. The position of the POWER method is depicted in figure 1.

\(^1\) Quality of law enforcement is defined as satisfaction of the constituency with the adoption of the principles of equality before law, predictability of law enforcement and proper use of authority by law enforcement agencies.