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# An organisation ontology for enterprise modeling: Preliminary concepts for linking structure and behaviour

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**Abstract**

The paper presents our preliminary exploration into an organisation ontology for the TOVE enterprise model. The ontology puts forward a number of conceptualizations for modeling organisations: activities, agents, roles, positions, goals, communication, authority, commitment. Its primary focus has been in linking structure and behaviour through the concept of empowerment. Empowerment is the right of an organisation agent to perform status changing actions. This linkage is critical to the unification of enterprise models and their executability.

*Keywords:* Activity; Empowerment; Ontology; Organisation; Role

## 1. Introduction

What is an organisation and how do we model it in an information system? Many disciplines have explored the former and every information system built has created a version of the latter. The purpose of this paper is to explore the latter from the perspective of Artificial Intelligence.

As information systems play a more active role in the management and operations of an enterprise, the demands on these systems have also increased. Departing from their traditional role as simple repositories of data, information systems must now provide more sophisticated support to manual and automated decision making; they must not only answer queries with what is explicitly represented in their Enterprise Model, but must be able to answer queries with what is *implied* by the model. The goal of the TOVE Enterprise Modeling project is to create the next generation Enterprise Model, a *Common Sense Enterprise Model*. By common sense we mean that an Enterprise Model has the ability to deduce answers to queries that require extended but relatively shallow knowledge of the domain.

We are taking what can be viewed as a 'second generation knowledge engineering' approach to constructing our Common Sense Enterprise Model. Rather than extracting rules from experts, we are building models of domains by 'engineering ontologies'. Ontologies are shared views of parts or domains of the world. They provide conceptualizations that are agreed upon by people engaged in collaborative action or the development of various artifacts, including software. The shared nature of these conceptualizations allows people or programs to communicate effectively and supports the development of information systems by building interoperable

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