

Designing Information exchange using a common information model

By Sander Huizinga

The information exchange between businesses is increasingly rapidly. In the Dutch gas transportation sector a five times growth has been measured between of 2006-2011. The intra organisational information exchange has grown in the same rate as well.

The increasing pressures of transparency and the global shift of using information as a core resource of competitive advantage has made it imperative to define the required information precise and efficiently. However, the current used methodologies are experienced as increasingly cumbersome and operational ineffective. They produce an complex set of interdependencies between unrelated information exchanges and causing stalling debates about which elements, documents and transactions should be reused, resulting in faulty designs and implementations.

In this research the use of a Common Information Model (CIM) for the design of information exchange is investigated. A CIM is in this research defined as: "*A definition of the information to be shared across the scope of an integrated system (Fulton, 2006:p86)*".

[Problem definition]

How can a common information model be used for the design of information exchange?

With a design science approach according to Hevner (Hevner et al. 2004) an improved design methodology is developed and field tested with 10 (intra- and inter-organizational) cases in the European and Dutch gas transportation sector and Dutch social health-care system.

The results shows improved efficiency in design and implementation process and presents a solution for the current gap between inter- and intra-organizational design of information exchange. The research presents improved normalization rules for a CIM, and a solution for deriving an indefinite amount of messages from a CIM without losing context sensitivity.