Chapter VI
Towards a Meta–Model for Socio–Instrumental Pragmatism

Peter Rittgen
University College of Borås, Sweden

ABSTRACT

We claim that a general conceptual framework for the IS field should provide some kind of common upper-level ontology to describe and explain artifact-mediated social interaction. Such an ontology, socio-instrumental prag-matism (SIP), has been suggested. Our aim is to refine and formalize this ontology by providing a meta-model in the form of a unified modeling language (UML) class diagram. We discuss the implications of such a model as well as its relation to other ontologies. The meta-model is validated by using it in the evaluation of an existing

INTRODUCTION

The rise in the use of information systems (IS) is un-deniable, and every day IS become a more important part of organizations. But far from being perfect, the design and implementation of IS in organizations is still a very problematic task that is often fraught with failure (Ågerfalk & Goldkuhl, 2006). There is a need for a better understanding of IS, organizations, and their relation to come up with a framework capable of integrating these two concepts. For the past two de-cades, theories of communication have been imported into the IS field and the language action perspective (LAP) has been proposed as a way to understand IS and organizations based on communication (Goldkuhl, 1982; Winograd & Flores, 1986). Later on, an ontology to capture the social world was proposed and described in Goldkuhl (2001), Goldkuhl, Röstlinger, and Braf (2001), Goldkuhl (2005), and Goldkuhl and Ågerfalk (2002). This ontology was named "socio-instrumental pragmatism" since it aims at human actions which are supported by instruments and performed within the social world (Goldkuhl, 2002). Socio-instrumental pragmatism (SIP) presents a generic framework which allows for the analysis of the social world. Within this world there are six ontological categories:

1. Humans
2. Human inner worlds
3. Human Actions
4. Signs
5. Artifacts
6. Natural objects

Since SIP was intended as a generic framework which can serve as a base to analyze the social world, it is not aimed exclusively at the IS field. We think that a meta-model based on the SIP ontology but with a focus on the IS field is needed. This meta-model has its foundations in both LAP and SIP and presents a model that will allow us to view organizations and IS together with a focus on actions.

The model consists of the basic categories actions, actors, and objects. In addition to this we also consider other important aspects of organizations that are related to their functioning.

TOWARDS A META-MODEL SOCIO-INSTRUMENTAL PRAGMATISM

As mentioned before, there is a need for a framework that allows us to describe social systems in a clearer and more thorough way. Our work is based on the SIP ontology. Within the SIP ontology there are six ontological categories (Goldkuhl, 2002):

- **Humans** are the most important participants in the social world described by the SIP ontology; they act in the world based on meanings and perceptions that they derive from the world.
- **Human inner world** represents the knowledge that a human being has acquired over time about themselves and the external world; this inner world is intended to be seen as part of the human being.
- **Human actions** also form a part of the human being; they can be overt, which means that the actions are intended to intervene in the external world, thus trying to change something about it.

And they can be covert when they are aimed to change some human being's inner world; covert actions try to change knowledge that is present in the human inner world.

- **Signs** are the result of communicative actions; for instance, when write a note saying, "I will be at the store", the writing of the note is by itself a communicative action but the note created is a sign which will mean something to the person that will read it.
- **Artifacts** are things which are not symbolic and not natural but which are material and artificially created. Examples of artifacts are cars, clothes, a knife, and so forth. The difference between signs and artifacts is that while signs are intended to mean something to someone (symbolic), artifacts perform material actions. For instance, a human might use a knife (artifact) to cut some carrots, that is, artifacts are needed to perform material actions.
- **Natural environment** are the objects present in the environment that are not artificially created by humans (e.g., trees).

Figure 1 shows the different realms of the world according to the SIP ontology.

META-MODEL

Our model is divided into three main categories:

- Actions
- Actors
- Objects

Although we do not see Agent as a category; we do acknowledge the importance of agency and describe it as a special element in the model.

Actors

Actors are the main entities in our model, and they can perform either as locutor or addressee within the

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