KnowledgeNets

The past 10 years of Web evolution have established electronic markets and led to the rise and fall of the "new economy". The next 10 years may be characterized by the transformation of the Web from a document publication medium intended for human consumption into a medium for intelligent knowledge exchange. The semantically accurate description of information by means of ontologies as well as the modeling of domain specific background knowledge will allow sophisticated inquiry and integration of distributed information.

This development is led by the W3C *Semantic Web* initiative with a joined effort of scientific and business institutions. The W3C Semantic Web architecture stack is defining the reference architecture in the ongoing standardization process. The basic layers of the architecture—RDF (Resource Description Framework) and OWL (Web Ontology Language)—have already been standardized and are currently been deployed in different application domains. The standardization of the higher layers (security, logic, proof and trust) is just starting.

It is still unclear what economic effects these new technologies have on markets and enterprises:

- How do semantic technologies affect market-transparency in electronic markets? How does this affect the business models of market participants and intermediaries?

- How does an increased efficiency of information exchange affect industry specific value chains?

The project *KnowledgeNets* analyzes potential impacts of Semantic Web technologies on the electronic markets and the business specific value chains. Thus e-commerce scenarios are developed in which the new technologies are applied to various application domains. Afterwards these future scenarios are subject to experiments and analyzes.

The focus on economic aspects distinguishes the project KnowledgeNets from the usually technology oriented projects in the area of Semantic Web that base on computer science and AI. Thus it will be possible to recognize the economic potential and increase the application of these innovative technologies.

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