

Please quote as: Hoffmann, A. (2012): A pattern based approach for analysing requirements in socio-technical systems engineering. In: 20th European Conference on Information Systems Doctoral Consortium (ECIS 2012 DC), Barcelona, Spain.

# **A PATTERN APPROACH FOR ANALYSING REQUIREMENTS IN SOCIO-TECHNICAL SYSTEMS ENGINEERING**

## **DISSERTATION PROPOSAL**

Axel Hoffmann,  
Kassel University, Information Systems  
Email: axel.hoffmann@uni-kassel.de,  
Mail: Nora-Platiel-Str. 4, 34127 Kassel, Germany,  
Phone: +49 561 804-3806  
Fax: +49 561 804-3708

### **Dissertation abstract**

Requirements analysis for socio-technical systems faces the challenge of multidisciplinary requirements that need to be collected from, understood by and agreed upon by various stakeholders. In some cases, requirements analysts or involved stakeholders do not fully understand the requirements that other disciplines impose, and thus fail to deliver a requirements specification that can be used in interdisciplinary development teams. In requirements engineering, software requirement patterns are used to recognize important and recurring issues, thus reducing the effort of compiling a list of software requirements. The objective of the proposed dissertation project is to develop a similar pattern based approach that helps in analyzing requirements from different disciplines and making them comprehensible for all stakeholders who need to agree to a requirement specification as the deliverable of requirements engineering. Due to the importance of legal aspects for, and users' trust in, socio-technical systems, software requirement patterns will be developed for these two aspects. For the legal requirement patterns, legal requirements that are stable concerning changes due to their origin in fundamental, higher-ranked laws will be collected, and software requirement patterns will be derived from them. For the requirement patterns for trust support, antecedents that build trust will be collected, and software requirement patterns that demand functionality to support these antecedents will be developed. The obtained patterns are then used to compile a requirement list that serves as input for requirements negotiation with the various stakeholders.