Development and investigation of a concept for the interactive acquisition of work processes

The dissertation provides a contribution to the research theme “process analysis and optimization” in general. It focuses on the interactive acquisition and modeling of work processes in particular. Regarding this, different related problems are identified. One of the problems is the transformation of process data into process models by novices of process modeling.

Consequently, objectives are deduced from the problems by two research questions. To answer these questions, first of all, a meta-model of a working system and a method to classify processes are developed. On this basis, the software concept “Process Interviewer” (PI system) is developed. This concept considers the quality criteria “objectivity”, “reliability”, “validity” and “utility”. Subsequently, an empirical study is conducted, which compares the prototypical implemented PI system to a conventional, manual method (by means of a marker board and templates). The study considers the factors “human performance”, “reliability” and “mental workload”.

It has been found, that there are advantages when modeling with the PI system compared to the manual approach. Except for one case, the models developed with the PI system are at least of the same quality as the models developed with the manual approach. Based on these empirical findings the concept of the PI system can be assumed acceptable regarding the considered quality criteria.

Subsequently, possibilities for improvement are suggested as well as distinctions of other modeling methods are made. Furthermore, the executed empirical study is critically examined. The identified potentials for improvement are finally used for proposals to possible future research.