

Adequate Design of Business Processes and Support Systems: Reusability, Best Practices, Theory, ... – are They the Right Answers?

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The topic of adequate process design was the main focus of the 8th workshop of Business Process Modeling, Development, and Support (BPMDS'07), which was held in Trondheim, Norway, June 2007. This special issue includes extended versions of selected papers that were presented in the workshop. The papers in this special issue reflect this focus and some of the variety of issues related to it.

Business processes are designed as means for standardizing and supporting the ways by which organizations achieve their objectives. When a process is designed, it is the task of the designer to see that this design is adequate for fulfilling the organizational needs. Adequate process design means that a process will have the ability to fulfil its stakeholders' expectations. The objectives of the workshop were to clarify these expectations, to develop metrics to decide whether a design is adequate or not and to investigate means to achieve an adequate design.

The criteria for establishing what an adequate process design is and the means to achieve such adequacy are the focus of this special issue. Adequacy can be measured with respect to the goals of the stakeholders of the business process.

Typical goals that are named in connection with business process (and supporting systems) design are productivity, quality, efficiency, flexibility and conformance with formal and legal rules such as ISO 20000 or SOX. Are they the only ones? Typical means that are named in this context are “best practices”, reuse and theoretical approaches. Are they the right means for achieving these goals?

Main questions that can be addressed include:

- A. What does adequate design mean?
- B. How to determine whether a design is adequate or not?
- C. What means can be employed to achieve adequate design?

In particular, one may examine typical concepts used in relation with process design, such as, reuse, theoretical approaches and even buzz-words for instance, “best practices”. Reusability is often considered as a highly desired property of the designed processes and their support systems. "Best practices" are often used by practitioners to promote design techniques that are supposed to have been proven in practice, but it is not clear why they are "the best" as their name may suggest, and whether they can be transferred from one organization to another. The need to have the “right” theoretical approach represents the other extreme promoted by researchers who advance theoretical frameworks for design. These often suffer from being impractical and unscalable.

The different aspects of adequate process design that are addressed by the papers in this special issue include quality, collaboration, and reuse.

The paper by Adam et. al. addresses the quality aspects, assumed to be reflected in quality goals and requirements. Authors argue that only if all goals (related to a certain sub-domain) are reflected in corresponding processes and the requirements for their involved resources, can the resulting solution be adequate. The paper proposes a meta-model and a method for process design which incorporates quality goals and requirements. The continuous consideration of quality issues has been experienced as an important means to assure adequacy early on.

The assumption that collaborative work contributes to the success of business processes motivates the paper by Magdaleno et. al. The paper develops a maturity level model addressing the collaboration practiced in business processes. It proposes to adequately integrate the design of collaboration into the design of business processes, and reports an initial empirical evaluation of the proposed approach. The maturity model was defined based on well-known group supporting aspects: communication, coordination, awareness and memory. Authors claim that organizations can take advantage of the effort of thinking about modeling their processes and explicitly embed collaboration aspects into these processes.

Three papers in the special issue address different forms of reuse in business process design.

The paper by Reinhartz-Berger et. al. proposes a notion of organizational reference models, which should provide organizational standards for specific business processes that can be designed in different organizational units. When designing business processes in such environments, an adequate process design should balance two conflicting goals. The first goal is that the specific processes would meet the diverse needs of each unit. These needs may vary due to, e.g., localization requirements or differences in the practices and constraints of each particular unit. The second goal is to keep organizational standards, so that some common business logic is applied, and similarity among the processes is maintained as much as possible. The paper develops a method for supporting both commonality (organizational standards) and variability in the local processes, and a method for verifying that the local processes comply with the organizational reference model.

The paper by Thom and Reichert reports on activity patterns for designing process models. Each of these patterns is based on a recurrent business function and process fragment, respectively (e.g., task execution request, notification activity, approval) as they can be frequently found in business processes. The paper specifies a collection of such patterns and reports an empirical study which analyzed industrial processes using these patterns. The findings support the assumption that a relatively small number of activity patterns is sufficient for expressing a large portion of industrial business processes.

Finally, the paper by Green et. al discusses reusable process architectures and reports experience using such architectures in the higher education sector. Authors applied a particular process architecture development method, *Riva*, to a study and comparison of specimen processes in two UK Higher Education institutions. They found considerable variation at the concrete level even in these similar organisations, but saw more commonality in the abstract models using only core elements. Though even the abstract models were not identical, there was enough similarity to suggest some potential for reuse of process designs between organizations.