Representing Business Processes: Conceptual Model and Design Methodology

A Brief Ph.D. Thesis Summary

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The main key points of my work are: a new conceptual model for BPs; an XML serialization of such model; a BP design methodology and business process diagrams views. I refer to the model as 'conceptual' because it was not sufficiently formalized to be considered a complete meta-model, even if I think that its base concepts are detailed enough to be considered a solid base for reasoning about BP(MN) modeling. I haven't too much formalized the model because of the forthcoming BPMN 2.0 standard. I know I cannot compete with OMG and with the two submission proposals.

The conceptual model was originally developed to support and test our assumptions. However, it has some characteristics which could be taken into consideration while dealing with BPMN meta-model. Besides, the XML serialization of the model started some years ago to overcome the lack of a complete and compliant BPMN XML serialization. Nowadays, I think it can be very interesting to look at this XML-Schema model because of its simple and linear structure as well as for its main features: among others, it is a self-validating XML serialization of BPMN. This means that it is possible to natively check the syntax of a diagram, all the BPMN structural semantics rules and most of the behavioral semantics rules.

That is, we can check quite all the rules provided by BPMN 1.1 specifications which could be checked without a simulation or an execution of the process (for instance, we can check if a process has loops, but we can not check whether those loops are infinite loops). So, it is a simple but powerful enough model to describe all the relevant features of BPs.

Using this model, I've been able to provide a design methodology for BPs, while there are not other concrete proposals for this field. I think my work is one of the first contribution in the area of conceptual modeling of BPs and I believe that my effort could be very interesting, especially if we consider the survey presented by Rosemann during the last BPM conference in Milan (where he talked about the next BP challenges). The concept of views applied to BPs is another outcome which can be seen as a first preliminary result, because also in this case there are not other works regarding the possibility to emphasize different parts of a process. Some products offer this feature, but it is an artifact not supported by a native definition of views. Views permit us also to investigate several applications. In particular to define end users policies (at present not provided by BPMN standard neither by other notations). This implies the possibility to differentiate users access to BPs simplifying the process management inside companies. To access or modify a BP become no-more time consuming tasks. Moreover, the interest on security and privacy related topics arises and views could become the way through which these policies could be implemented.

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