

**First Declarative/Decision/Hybrid  
Mining and Modeling for Business  
Processes (DeHMiMoP)**

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The recent years have witnessed a rising interest of the business process management community in the investigation of the decisional and normative aspects of workflows. Processes and business process models involve rules and decisions describing the premises and possible outcomes of specific situations. However, important though they are, rules and decisions are often hidden in process flows, process activities, or in the head of employees (tacit knowledge), so that they need to be discovered using state-of-art intelligent techniques. For knowledge-intensive processes, it is common that rules and decisions, as opposed to the process-flow, define the allowed behavior of a process. To cater for it, a new declarative modeling paradigm has been proposed that aims to directly capture the business rules or constraints underlying the process. The approach is recently attracting considerable interest, and several declarative notations have been developed such as declare, dynamic condition response (DCR) graphs, decision modeling and notation (DMN), case management model and notation (CMMN), guard-stage-milestone (GSM), and extended compliance rule graphs (eCRG). Lately, there has been a rapidly growing interest in hybrid approaches, which combine the strengths of different modeling paradigms. The main focus of the workshop is thus on the application and challenges of decision- and rule-based modeling in all phases of the BPM lifecycle (identification, discovery, analysis, redesign, implementation, and monitoring).

The sixth edition of the Workshop on Declarative/Decision/Hybrid Mining and Modeling for Business Processes (DeHMiMoP 2018) began with the keynote of Rik Eshuis, entitled “Modeling Decision-Intensive Processes with Declarative Business Artifacts.” Starting with a discussion centered around the need of modern business processes to support knowledge workers in making decisions, he showed how declarative business artifacts can be a promising ingredient to support such decision-intensive processes. His inspirational talk illustrated some challenges to be tackled to that end, and promising solutions to overcome them.

Three full papers and two short papers were subsequently presented at the workshop. The reported research endeavors spanned over all the topics of the workshop, as they focussed on declarative process models, declarative specifications as a means to generate imperative models, decision-aware processes, and decision models.

In particular, Andaloussi et al. investigate in how far the understandability of DCR Graphs can be improved through the combined adoption of different visual artifacts. Their paper entitled “Evaluating the Understandability of Hybrid Process Model Representations Using Eye Tracking: First Insights” also shows the initial results of their experiments conducted with users. In “Generating Decision-Aware Models and Logs: Towards an Evaluation of Decision Mining” by Jouck et al., a novel simulation-

based framework is proposed that allows for the comparison of decision-mining techniques. The software tool that implements their framework is presented in the paper as well. Haarmann et al. describe their approach and software prototype to check compliance rules expressed in temporal logic against process models endowed with decision models. Their solution is described in the paper entitled “Compliance Checking for Decision-Aware Process Models.” The generation of imperative process models based on a declarative partial specification of their activities, input and output data dependencies, and process states is the aim of the approach proposed by Wiśniewski et al. Their paper “Towards Automated Process Modeling Based on BPMN Diagram Composition” describes their approach and discusses its application in the context of process modeling and mining. In “Measuring the Complexity of DMN Decision Models,” Hasić et al. propose a set of metrics to assess the complexity of DMN models. Their paper also presents the results of an empirical evaluation conducted as an exploratory survey.

November 2018

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