Business Decision Modeling with DMN and OpenRules

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Abstract. This tutorial will demonstrate the practical use of the DMN standard by developing, executing, and analyzing various decision models using a popular open source business rule and decision management system "OpenRules".

Keywords: Decision Modeling, Business Rules, Decision Table, DMN, OpenRules.

This tutorial uses a learn-by-example approach to introduce major business decision modeling concepts described in the Decision Model and Notation (DMN) standard [1]. To demonstrate the practical use of the standard, this tutorial will implement various decision models using a popular open source Business Rules and Decision Management system commonly known as "OpenRules" [2]. Many of these models are described in detail in the recently published book "DMN in Action with OpenRules" [3].

We will start with creation of a simple decision model oriented to business people who will use only MS Excel. We will show different types of decision tables to represent decision logic. The audience will also learn how to create tests cases for their decision models with expected results (again in Excel), and how to execute their models against these test cases using OpenRules.

Then we will explain how a decision model created and already tested by a subject matter expert, can be integrated with an existing information system. We will explain how business and technical people may around only two integration points:

- Business Glossary including all decision variable used inside decision tables and distributed between different business concepts
- Technical names of these variables that correspond to attributes inside the corresponding business object model (e.g. Java objects).

Again we will execute the integrated decision model not against Excel-based test-cases but rather against actual Java objects.

Then we will develop and analyze in real-time several more complex decision models demonstrating the power and applicability of different decision modeling constructs specified in DMN.

And finally, we will end up with explanations of how to create custom decision models specific for different problem domains. We will demonstrate how to create domain-specific decision tables that go beyond the DMN standard but support real-world decision modeling needs.

References

1. OMG Decision Model and Notation standard,
   http://www.omg.org/spec/DMN/Current

2. OpenRules, Open Source Business Rules and Decision Management System,
   http://openrules.com

3. Jacob Feldman, DMN in Action with OpenRules, ISBN 978-1-5206053-8-8, 2017
   https://www.amazon.com/dp/B06W579JYM