DECISION MANAGEMENT SOLUTIONS

By James Taylor

Decision Modeling and DMN for IBM Customers

A DecisionsFirst Approach to ODM and Decision Composer

Introduction

IBM has long been a leading player in business rules management systems. IBM Operational Decision Manager (ODM) is probably the leading BRMS and is widely used across industries and around the world. Decision Management Solutions has many customers using it in both North America and Asia. The core ODM product is focused on business rules management and has not historically offered any graphical decision modeling capabilities — it supports decision tables for modeling decision logic extremely well but not graphical decision requirements models.

Decision Management Solutions' DecisionsFirst Modeler supports decision requirements modeling using the Decision Model and Notation (DMN) standard and has long been integrated with ODM. An open API-based integration links decisions modeled in DecisionsFirst Modeler directly to the rules in ODM that implement each decision. This makes it easy for business users to navigate around the decision requirements model in DecisionsFirst Modeler and then dive directly into ODM at the right spot when they want to make a change to the decision logic underlying the model. The integration takes full advantage of ODM capabilities for versioning, workflow, user control etc., ensuring good rules management.

An extension to ODM uses the linked decision requirements to show ODM users the impact of any rule change — the decisions that will be impacted directly or indirectly by any rule change. This extends beyond the current ODM project to other ODM projects and even to decisions not implemented in ODM to show the full context of the impact. When combined with the powerful simulation tools in ODM,

this allows business users to safely make rule changes, confident in the impact those changes will have and knowing who they will have to inform about the change.

IBM customers looking to use graphical decision requirements models have a new choice in December, 2018 when the new Decision Composer capabilities (described in this Decision Composer First Look on JTonEDM.com and this IBM Developer blog post) will be made available as part of Decision Center, IBM's business user environment for managing business rules in ODM. Today users can access Decision Composer standalone but when it becomes part of ODM Decision Center it will be widely available to all ODM Decision Center users.

ODM customers considering Decision Composer should use DecisionsFirst Modeler, the DecisionsFirst approach and ODM/Decision Composer in combination to maximize results.

DecisionsFirst

Decision Management Solutions has over a decade's experience in Decision Management projects and Decision Management is our only focus. This unique experience has created our DecisionsFirst platform for success. The DecisionsFirst approach, outlined in multiple books on Decision Management and decision modeling, is shown in Figure 1
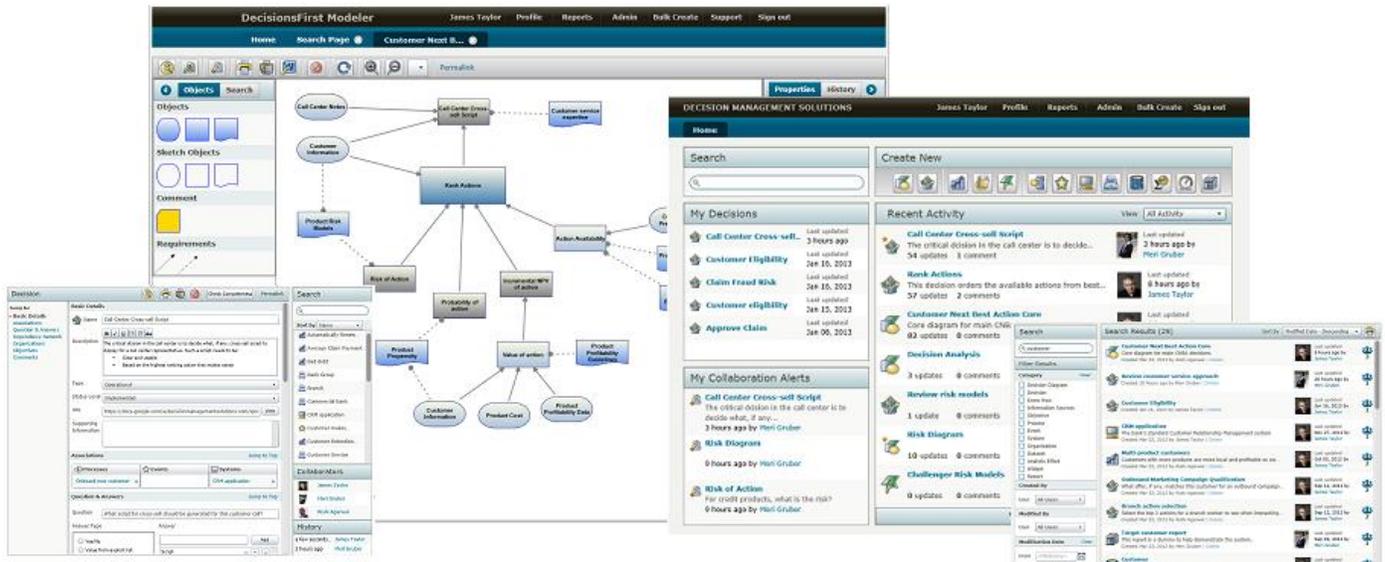
Figure 1. The DecisionsFirst Approach, a product of Decision Management Solutions
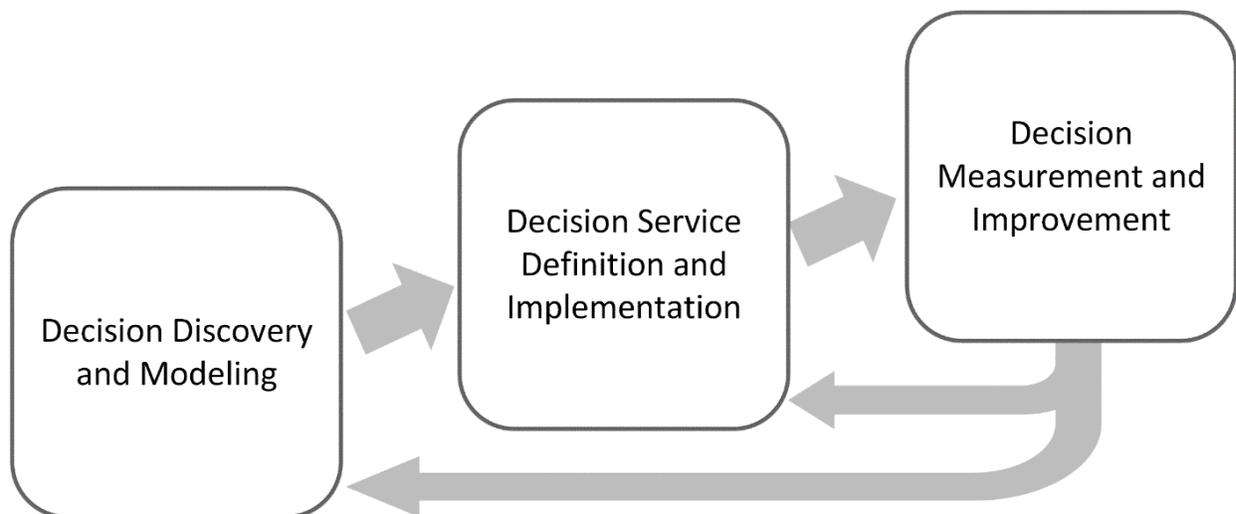
This approach is supported throughout by DecisionsFirst Modeler, our platform for decision requirements modeling. This cloud-based platform integrates with a wide

Figure 2. DecisionsFirst Modeler

range of business rule, analytic and AI products to support a virtual decision hub across all your decisioning technology.

Decision Discovery and Modeling

The DecisionsFirst approach begins by engaging directly with business experts and using decision-centric design thinking to build the decision model the business wants. Decision Management Solutions' teams work very iteratively and don't constrain the discussion to decisions that will be automated or to those that are best implemented as business rules. Instead the team stays focused on the **business** decision. DecisionsFirst Modeler is ideal for capturing and refining these models for several reasons.

1. It supports the highly iterative nature of decision model development. It allows for incomplete and partial decision models to be built, lets users build multiple views of the same underlying model to effectively engage different stakeholders, and captures business context — organizational structure, performance measures and goals — that help ground the decision model in the business problems.

2. It does not require a technology choice to be made before it is needed. Users can, and do, build large, detailed decision models without specifying which technology is going to be used to implement which decisions, helping keep the project business-centric longer.

3. A rich API allows the model built during this phase to be pulled into other environments. This includes DecisionsFirst Modeler Reader, a complete read-

only version of the model with persistent URLs that can be widely shared, embedded in documents or made available on an intranet to keep everyone fully engaged, even if they will never be Decision Composer or ODM users.

**Figure 3. A decision requirements model displayed read-only for sharing**
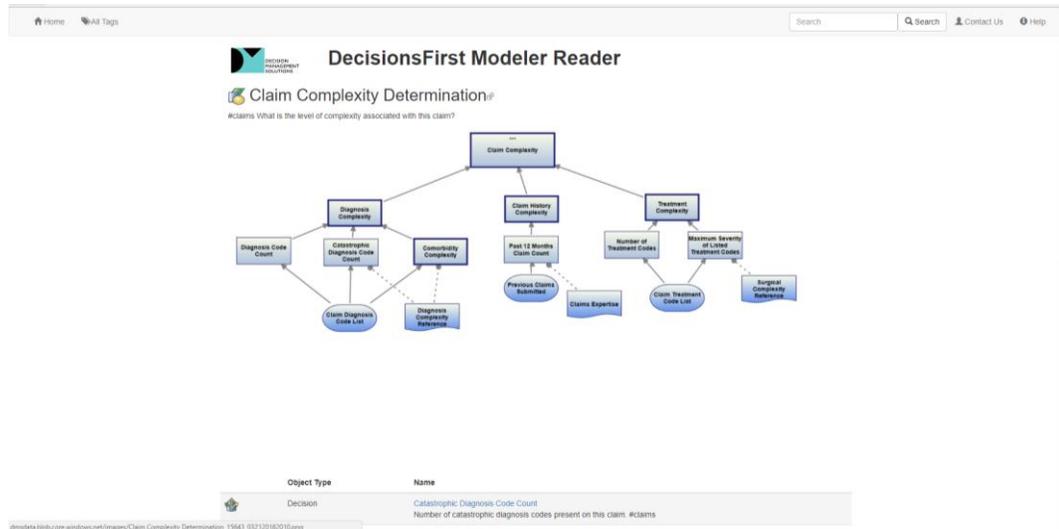
4. DecisionsFirst Modeler provides extensive support for Knowledge Sources. This allows the team to keep track of the policies, regulations, best practices, guidelines, checklists, analytic insight, reports and experts that will ultimately be the source of the business rules. Tracking these, defining them, linking them together for management and showing how they impact the decisions in the model is a crucial part of defining decision requirements.

Decision Service Definition and Implementation

As the project transitions into development — and the DecisionsFirst approach recommends doing this incrementally with sprints or other agile approaches if possible — the team identifies decisions that need to be coded into business rules (the decision logic). Decision Composer or ODM can be used to develop this logic. DecisionsFirst Modeler is integrated with both, so the team can link directly from the decision requirements diagrams in DecisionsFirst Modeler to the decision tables, rules or decision models in ODM and Decision Composer. The full functionality of Decision Center is available, ensuring all the strong security and governance features it offers are applied to the business rules developed.

Figure 4. **DecisionsFirst Modeler showing a model with some decisions linked to an ODM implementation**
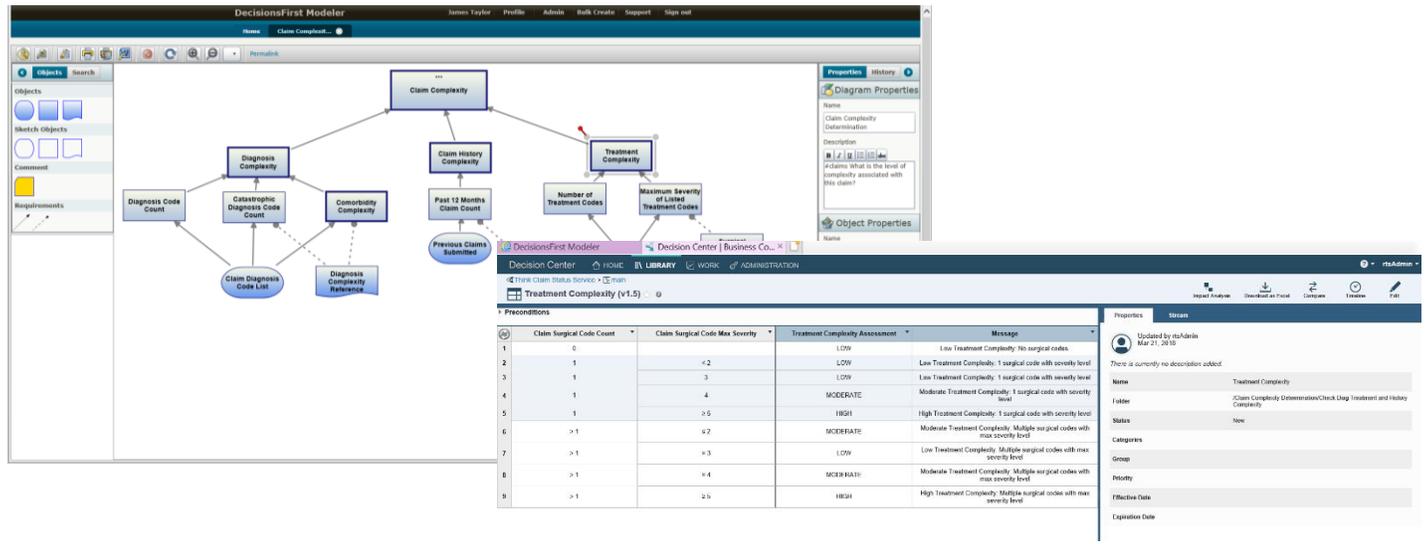
In terms of picking between Decision Composer and ODM, teams should consider the table below from IBM and the following additional factors:

▶ DecisionsFirst Modeler can be linked to existing ODM artifacts so if the team builds a decision requirements model and discovers that the rules needed have already been developed, they can simply be linked. There's no need to re-develop anything.

▶ A single decision requirements model in DecisionsFirst Modeler can be linked to decision tables and rules across multiple ODM projects. If there are reasons to spread the decision-making cross several various projects that don't line up with the decision model structure, then the decision requirements model in DecisionsFirst Modeler can still be used to navigate to the relevant business rules.

▶ If there is a decision in the model that really encapsulates its sub-decisions, Decision Composer might be a good choice. The decision requirements model could be replicated in Decision Composer for strong alignment and the resulting decisions could be deployed as a single unit that can be called from elsewhere, including from ODM.

As the API for Decision Composer evolves it will become possible to push portions of a decision requirements model from DecisionsFirst Modeler into Decision Composer to accelerate this first step. Good traceability is available regardless of how the model is built in Decision Composer.

▶ Not all decisions are rules-based. Sometimes the team will want to implement a decision with a predictive analytic model, a machine learning model, an AI algorithm or a human. All of this can be managed in DecisionsFirst Modeler and decisions can be linked to their implementation whether or not they are implemented in ODM or Decision Composer.

▶ If ODM and Decision Composer are linked to a decision requirements model in DecisionsFirst Modeler, an Impact Analysis widget can be installed in Decision Center.

This shows the impact of any rule change in terms of the decisions linked to the rules or that depend on the decision linked to the rules, no matter how remotely. This shows who has to be told when the rules are changed.

Figure 5. Impact Analysis widget in Decision Center

	Decision Composer	ODM 8.10
Decision models	✔	✔
Rule flows	✘	✔
Business rule and decision table editing	✔	✔
Business Language	Basic	Advanced/Custom
Collaboration	Basic	Advanced
Governance	✘	✔
Testing and Simulation	✘	✔
Role and Permission Management	✘	✔
Enterprise Integration and DevOps	✘	✔
Execution at Scale	✘	✔

Figure 6. Decision Composer and ODM compared, courtesy of IBM

Decision Measurement and Improvement

In this final phase, DecisionsFirst Modeler integrates the decision requirements model into decision performance dashboards. Information produced from ODM's execution environment (which can also execute Decision Composer models) tracks how decisions were made. Presenting this data back to business users in the context of the graphical decision models enables them to see how their decisions are performing and determine the right business rules changes to make.

DecisionsFirst Modeler models can be embedded in these dashboards and used to navigate from the performance data being reviewed to the decision requirements model to the relevant implementation, where the standard rule maintenance capabilities of ODM or Decision Composer can be applied.

Conclusion

Decision Management Solutions has modeled over 3,000 business decisions around the world. This experience with decision requirements modeling has proven that it is:

- **Rapid**
  It's much faster than traditional approaches – according to one customer, a 1-hour session developed understanding "that would have taken 10".

- **Engaging**
  Business SMEs participate more fully in decision modeling than in other requirements approaches and get so engaged they often free up their schedule so they can participate more.

- **Enlightening**
  It clarifies real requirements and even experienced SMEs learn something from the model, often asking to use the models for future training.

- **Open**
  Human and automated decisions are modeled together and models can consider any kind of data, any kind of decision, mixing business rules with analytics, machine learning and AI.

Decision requirements modeling establishes the true data needs for a decision, shows the analytic, ML and AI opportunities in a project, helps identify the right automation boundary and dramatically improves the capture and implementation of decision logic and business rules.

The combination of the DecisionsFirst Approach, DecisionsFirst Modeler, Decision Composer and ODM allows IBM customers to maximize the effectiveness of decision requirements modeling on their business rules projects.

Decision modeling using DMN is a very powerful technique and should be standard on all ODM projects if it is not already.

CONTACT US

Decision Management Solutions helps large organizations harness data-driven decisions by applying decision management, business rules, and advanced analytics to solve their most pressing business challenges.

www.decisionmanagementsolutions.com   Email: info@decisionmanagementsolutions.com