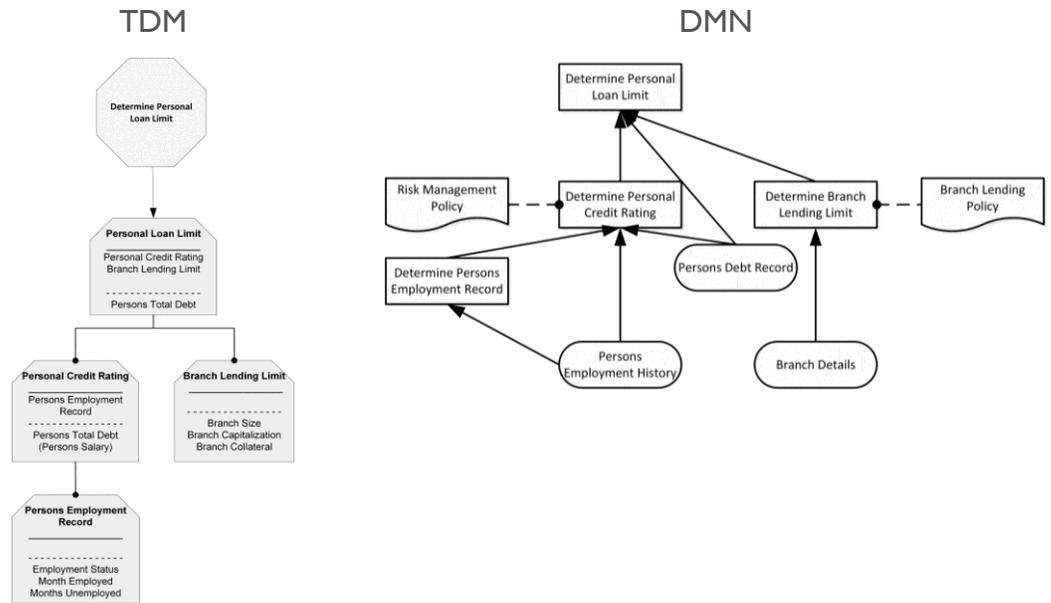# DMN and TDM Compared

The Decision Model and Notation (DMN) industry standard and The Decision Model (TDM) are decision modeling approaches that have both similarities and differences.

TDM is a proprietary approach established in 2009 and documented in a book[1]. Because it is well established and still practiced, many organizations want to understand the difference between TDM and the newer DMN industry standard.

Experience with TDM is a huge benefit for a decision modeler. The principles embodied by TDM are a great foundation for decision modeling with DMN.

## Similarities

TDM and DMN are both based on diagrams that show how decisions break down into (and require) sub-decisions and how these decisions use input data. There are minor notational differences as can be seen below but the commonalities are many.



Simple Decision Models in TDM and DMN

In addition, both TDM and DMN support the definition of decision logic in a "rules as rows" tabular format that is easy to read and edit. Both define how these decision tables are constructed - TDM is more formal and DMN slightly more flexible.

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[1] *The Decision Model,* von Halle and Goldberg, 2009

# Key Differences

## *Openness*

TDM is a proprietary decision modeling notation and approach owned by Sapiens Inc. While the original book describes the core approach, updates since then are proprietary to Sapiens. In contrast, DMN is an open industry standard supported by multiple vendors. It too is evolving but its changes are a matter of public record, discussed and tracked by a multi-vendor committee.

TDM is both a notation and an approach. If defines how to represent decision models and how to build and verify them. DMN is only a notation, it contains no approach. DMN describes how to represent and interchange decision models but not how to build them. Multiple approaches are available, including one Decision Management Solutions has developed. While DMN approaches may vary, the standard and the interchange format ensure customers are not tied to one vendor.

## *Formality v Flexibility*

TDM is generally more formal while DMN is more flexible. TDM only supports decision logic as decision tables and TDM models contain only those decisions that can be completely defined using business rules. DMN decisions can be decision tables, analytic models, optimization models, text, examples or even left unspecified. This allows any decision to be modeled and allows a team to begin decision modeling before selecting technology or deciding on an automation scope.

TDM limits the rules execution approach  to best practice ones and supports a single, but well thought out, approach to messages. DMN supports these but also allows less common approaches that can be useful in certain situations. TDM also has a formal approach to managing terms and a glossary defined and integrated with the decision logic modeling approach. DMN uses an information model that can be used with a customer's choice of glossary approach.

## *More Business-Friendly Decision Models*

DMN diagrams show how data is consumed more clearly than TDM diagrams. DMN also supports the documentation of the knowledge sources that constrain, in form or guide a decision. This enables original knowledge to be traced to the decisions that encode or embed it.

## *Decisions as Peers to Processes, not junior partners*

TDM constrains the scope of a decision model and differentiates between top-level Decisions and other decisions. Only these constrained top-level decisions can be invoked from processes so TDM projects generally subordinate a set of decision models to a process model when they are used together. DMN considers all

decisions equal, allows any decision to be invoked from a process and defines decisions more flexibly. DMN models have decisions at a higher business level than TDM and DMN treats process and decisions as peers when they are used together.

### *TDM Principles are often best practices or recommendations for DMN*

TDM has a formally defined set of principles.

▸ TDM *structural* principles define how decision tables should work. These are generally good advice for anyone building a decision table. These principles are mostly supported by the way DMN defines decision. Some are best practices for using DMN, some are relaxed to allow DMN to support a broader set of use cases. For instance, DMN supports multiple output columns.

▸ TDM *declarative* principles ensure that declarative rather than procedural logic is being written. DMN users can and should generally apply these TDM principles to their decision tables as they are best practices for specifying decision logic.

▸ TDM *integrity* principles ensure that decision tables are normalized. DMN does not explicitly support these principles but they are a best practice for DMN models and can be enforced on DMN models or by a BRMS for instance.

## From TDM to DMN

Experience with TDM is a strong advantage for any modeler building DMN decision models. The differences should not be underestimated, though, so TDM users should take note of several things when migrating to DMN.

▸ Knowledge Sources in DMN are useful for showing how real-world knowledge such as policies or regulations drives the model.

▸ Narrowly-scoped decisions that must be orchestrated by a process model should be replaced with a focus on a broad business decision.

▸ Don't assume that a decision must be automated or that it must be automated with business rules. Model all decisions first.

▸ Input data in DMN works best when used to represent entities not, generally, individual fields. This keeps diagrams manageable.

## About DMN

Decision Model and Notation™ (DMN™) is a standard published by the Object Management Group (OMG), the same standard body that publishes BPMN and UML. The original submitters of the standard include our firm, Decision Management Solutions, together with Escape Velocity, FICO, IBM and Oracle and with co-authors KU Leuven, Knowledge Partners International, Model Systems and TIBCO. The adoption of DMN continues to grow with extensive vendor support across BRMS and BPMS vendors and today the standards committee has representatives from over 15 vendor and end user organizations.

## About Decision Management Solutions

Decision Management Solutions offers DMN based training, methodology and consulting. Our proven methodology incorporates the lessons learned from TDM projects as well as extensive experience with successfully implementing a DMN decision modeling capability in a wide range of organizations, including compliance and regulatory intensive industries such as financial services, insurance and health care.

We are one of the most experienced decision management and decision modeling consultants and trainers in the world, led by leading expert James Taylor, CEO. Many of our clients use our decision modeling software DecisionsFirst Modeler though our approach and training are vendor neutral. We are a co-submitter of the DMN standard, a contributor to the BABOK® on decision modeling, and an IIBA Endorsed Education Provider.