

Design Tip #103 Staffing the Dimensional Modeling Team

By Bob Becker

It's surprising the number of DW/BI teams that confine the responsibility for designing dimensional models to a single data modeler or perhaps a small team of dedicated data modelers. This is clearly shortsighted. The best dimensional models result from a collaborative team effort. No single individual is likely to have the detailed knowledge of the business requirements and the idiosyncrasies of all the source systems to effectively create the model themselves.

In the most effective teams, a core modeling team of two or three people does most of the detailed work with help from an extended team. The core modeling team is led by a data modeler with strong dimensional modeling skills and excellent facilitation skills. The core team should also include a business analyst who brings a solid understanding of the business requirements, the types of analysis to be supported, and an appreciation for making data more useful and accessible. Ideally, the core team will include at least one representative from the ETL team with extensive source systems development experience and an interest in learning. The data modeler has overall responsibility for creating the dimensional model.

We recommend including one or more analytic business users as part of the core modeling team. These power users add significant insight, helping speed the design process and improving the richness and completeness of the end result. These are the users who have figured out how to get data out of the source system and turn it into information. They typically know how to build their own queries, sometimes even creating their own private databases. They are particularly valuable to the modeling process because they understand the source systems from a business point of view, and they've already identified and created the business rules needed to convert the data from its form in the source system to something that can be used to support the decision making process.

The core modeling team needs to work closely with source system developers to understand the contents, meaning, business rules, timing, and other intricacies of the source systems involved in populating the dimensional model. If you're lucky, the people who actually built or originally designed the source systems are still around. For any given dimensional model, there are usually several source system people you need to pull into the modeling process. There might be a DBA, a developer, and someone who works with the data input process. Each of these folks does things to the data that the other two don't know about.

The DBA implementing the physical database, the ETL architect/developer and the BI architect/developer should also be included in the modeling process. Being actively engaged in the design process will help these individuals better understand the business reasons behind the model and facilitate their buy-in to the final design. Often the DBA comes from a transaction system background and may not understand the rationale for dimensional modeling. The DBA may naturally want to model the data using more familiar design rules and apply third normal form design concepts to normalize the dimensions, physically defeating your dimensional design. ETL designers often have a similar tendency. Without a solid appreciation of the business requirements and justification for the dimensional design, the ETL designer will want to streamline the ETL process by shifting responsibility for calculations to the BI tool, skipping a description lookup step, or taking other shortcuts. Though these changes may save ETL development time, the tradeoff may be an increase in effort or decrease in query performance for hundreds of business users. BI designers can often provide important input into the models that improve the

effectiveness of the final BI applications.

Before jumping into the modeling process, take time to consider the ongoing management and stewardship implications of the DW/BI environment. If your organization has an active data stewardship initiative, it is time to tap into that function. If there is no stewardship program, it's time to initiate the process. An enterprise DW/BI effort committed to dimensional modeling as an implementation approach must also be committed to a conformed dimension strategy to assure consistency across multiple business processes. An active data stewardship program can help an organization achieve its conformed dimension strategy.

Although involving more people in the design process increases the risk of slowing down the process, the improved richness and completeness of the design is well worth the additional overhead.