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ISTE434 Data Warehousing Report 2

1. Bill Inmon and Ralph Kimball define two methods for designing a data warehouse: Inmon approaching design with a more top down approach and Kimball approaching design with a more bottom up approach. Inmon’s approach designs the data model first and normalizes it, then designs each dimensional table. Kimball’s approach designs the data marts first, combining them into the whole data warehouse.

2. The main differences in methodology are that Inmon starts with a much wider and further back view of information - including all databases and data from an entire organization whereas Kimball starts with the individual and specific dimensional data models including the fact and dimensional tables. The data modeling for Inmon requires the overall data warehouse being broken down into its individual data marts using his SINT technique: subject oriented, integrated, non-volatile, and time-variant. Kimball’s method uses dimensional data modeling to create the individual data marts which can then be combined into a data warehouse and also does not involve normalization. Inmons philosophy is about making information available to a stable company while accommodating for subsequent changes easily, focused more on technologically-familiar users. Kimball’s philosophy is about making easy to access and consistent information in a shorter time to both people who are familiar with the technology and the end users who may understand much less technologically. Because of this: in terms of target users and accessibility, Kimball’s approach is more user accessible. It is easy to query and there are a smaller number of rows along with being better suited for smaller teams / organizations. Kimball’s approach is also much faster at first, but slow to change. Kimball calls for slowly changing dimensions whereas Inmon’s approach is better for a requirement of a longer time frame of data which can be easier to make modifications to. In terms of cost, it is similar to speed: Kimball’s approach has a much cheaper cost to deploy, but Inmon’s approach will allow future developments to be cheaper and cheaper as maintenance is much easier and changes are continuous.

3. While they have their differences, there are also similarities in each approach. Both methods use ETL - extract, transform, and load the data into the data warehouse. They also both utilize time: Kimball creating a date dimensional table and Inmon creating various normalized time tables to allow users to pull data based on a time factor.

4. The article that ended up being the most informational to me was: Data Warehousing Battle of the Giants by Mary Breslin. It was a very detailed and specific article without being too complex to understand. Each area of knowledge is split into helpful sections such as major differences, major similarities, and how to choose the best approach based on the situation. The summary at the end of the article can be read by even a beginner with very little knowledge of data warehousing to get an understanding of Inmon vs Kimball and their methodologies. The only downside to this article for me was that there is so much text sometimes where diagrams or images could help emphasize or make a point easier to understand. This makes sense to me though as this seems to be an article for more database-knowledgeable people.

5. In my opinion, Inman’s approach is the best method to take with better design. I believe that the developers or IT professionals are really the main people who need to understand and query the database compared to the end users so that is not much of a downside. I also think that as long as a company or business has the money and time to design and develop their data warehouse using Inman’s approach, then they will be better off in the long term. Inman’s approach has better and easier maintenance along with being cheaper to advance, expand, and make modifications to.

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