**Report #2: Inmon vs Kimball**

1. **Introduction**

Inmon and Kimball are called the best of the best in the field of Database Design and Modelling. As they were the one who defined and deployed the theory and the practical approach for the data-warehousing fundamentals. Their definition for Data Warehousing are as follows: **Ralph Kimball:** Data Warehouse is the clustering of all the Data Marts within the enterprise and All the information is always stored in the dimensional model. **Bill Inmon:** Data Warehouse is one part of the business intelligence platform. Data Warehouse holds the data marts with the information, but the information is stored in 3NF (3rd Normalized Form). These are the paradigms defined by the individuals.

1. **Critical Differences**

The theory and approach by both have its uniqueness and differences. The differences we will be talking about are Methodology proposed, Data Modelling Approach, Philosophy behind it, Targeting the users and cost to deliver the approach.

* **Methodology:** The methodology of both individuals is related to construct the data warehouse but only with certain set of theories. **Kimball** methodology is focus on the key performance sectors of the business that can be helpful from the Data warehouse. The other key methodology of Kimball’s approach is that he follows ‘Enterprise Bus Matrix’. The process where the fact tables are listed vertically, and other dimensions are listed horizontally. **Inmom** methodology is to build the data warehouse from the basic corporate areas that are functioning in the in the business process.
* **Data Modelling Approach: Kimball** has the bottom-up data modelling approach where the data follows the ETL method to the staging area and loaded into the dimension model which not normalized and primary concept is to create star schema where fact table is surrounded by the dimensions. **Inmon** approach is top-down approach where it holds the generation of the logical model, which hold all the entities, relationships, attributes, and keys. This data modelling is normalized, and redundancy is avoided to the maximum possibility.
* **Philosophy:** The philosophy behind the **Kimball’s** theory was that he wanted to focus on all the data marts that were helpful for the business processes and key objective was Bus Architecture and “Conformed” dimensions. **Inmon’s philosophy** says that he wanted to look up the data-warehousing with logical models as the whole organization’s activities.
* **Target Users: Kimball’s** targeted users are who focuses on day to day activities and need to be updated frequently. **Inmon’s** users are focused on big organizations who have slower working activities.
* **Time and Cost:** Kimball’s design process holds 4 steps that includes select the business process, declare the grain, dimensions, and facts. This results in time-efficient and faster execution with also iterative step and cost-effective. **Inmon’s** time and cost are more expensive compared to the Kimball as creation of the model is more complex.

**Summary Table:**

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| --- | --- | --- |
| **Parameters** | **Kimball** | **Inmon** |
| **Approach** | **Bottom-Up** | **Top-Down** |
| **Focused Area** | **Individual Business Organization** | **Enterprise Wide Areas** |
| **Execution Time** | **Fast Execution** | **Slow Execution** |
| **Building Time** | **Cost Effective** | **Initial Cost is huge and development cost is low** |
| **Maintenance** | **Difficult** | **Easy** |
| **Data Model** | **Required Deformalized Model** | **Requires Normalized Model** |

1. **Key Similarities:**

I feel like there are two similarities with their approach in the question for Data warehousing approach. The first similarity the follow up of the ETL (Extract, Transform and Load) method, which is one of the primary tasks for their approaches. The next similarity is the construction of the data marts. Their approaches both have the requirements of construction of the data-marts where one is created before the data warehouse and other is generated after the data warehouse is established.

1. **Critique:**

**Comparative study of data warehouses modeling approaches: Inmon, Kimball and Data Vault.**

The paper starts with the definition of the Data-Warehousing and focuses on the terms like database modelling and both approaches by Kimball and Inmon. After that the comparison is held over both approaches.

**Positive Aspects:** Shows the similarity between both approaches that is ETL method and construction of the Data Warehouse with and without data marts. Following papers defines philosophy which involves the users that has better outcomes i.e. Inmon approach is utilized by IT professionals who are tech savvy and Kimball’s approach is operated by End Users.

**Negative Aspects:** The papers ignore the fact that integration of data models from ETL process does have time complexity. They did not define the cost and time execution of both process, which should primary objective comparing both approaches. Lastly, they concluded that no approach is best, and it completely depends on the business case scenario.

1. **My Opinion:** In my opinion of deciding which approach is the good one for data modelling execution, I will go with Kimball’s bottom up approach. The critical aspect of this approach is fast and easy setup execution and building method. The star schemas results into better understanding from users to report the data. The drilling method across the data cube is helpful over the schema as it results into describing the information about the fact and conformed dimensions. In my perspective Kimball’s approach is better in KPI (Key Performance Indicator) in these fast moving and tons of data is generated over the network.

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