**STAR AND SNOWFLAKE SCHEMA**

**WHAT IS A FACT TABLE?**

* Find it at the Centre of Star or Snowflake schema and it’s surrounded by Dimensions tables.
* It Consists of facts about a particular business process.

**Relevance of a Fact Table**

-Meaning full analysis is performed on them to improve the business process.

-Analise the production and sales of an agricultural installation.

**TYPES OF FACT TABLES**

-Transaction fact tables.

-Periodic Snapshot fact tables.

-Accumulating snapshot fact tables.

**What is a dimension table?**

* Contains Descriptive measures.
* Add meaning to measures and facts.

**Transaction Fact Tables**

A Transaction table is the most basic and fundamental view of business operations. These fact tables represent an event that occurred at an instantaneous point in time. A row exists in the fact table for a given customer or product only if a transaction has occurred.

A given customer or product is likely linked to multiple rows in the fact table because the customer or product is involved in more than one transaction. Transaction data often is structured quite easily into a dimensional framework. The lowest-level data is the most natural dimensional data, supporting analyses that cannot be done on summarized data.

**Snapshot Fact tables**

This type of fact table describes the state of things in a particular instance of time, and usually includes more semi-additive and non-additive facts.

Example: Daily balances fact can be summed up through the customers’ dimension but not through the time dimension.

Periodic snapshots are needed to see the cumulative performance of the business at regular, predictable time intervals. Unlike the transaction fact table, where we load a row for each event occurrence, with the periodic snapshot, we take a picture of the activity at the end of a day, week, or month, then another picture at the end of the next period, and so on. Example: A performance summary of a salesman over the previous month.

**Accumulated Fact Table**

This type of fact table is used to show the activity of a process that has a well-defined beginning and end. For example, the processing of an order. An order moves through specific steps until it is fully processed. As steps towards fulfilling the order are completed, the associated row in the fact table is updated.

Accumulating snapshots almost always have multiple date stamps, representing the predictable major events or phases that take place during the course of a lifetime. Often there’s an additional date column that indicates when the snapshot row was last updated. Since many of these dates are not known when the fact row was first loaded, we must use surrogate date keys to handle undefined dates.

In sharp contrast to the other fact table types, we revisit accumulating snapshot fact table rows to update them. Unlike the periodic snapshot, where we hang onto the prior snapshot, the accumulating snapshot merely reflects the accumulated status and metrics. Sometimes accumulating and periodic snapshots work in conjunction with one another.

**Star Schema**

**Star Schema** in data warehouse, in which the center of the star can have one fact table and a number of associated dimension tables. It is known as star schema as its structure resembles a star. The Star Schema data model is the simplest type of Data Warehouse schema. It is also known as Star Join Schema and is optimized for querying large data sets.

-Denormalized dimensions.

-Fact tables surrounded by Dimension tables.

-May have data integrity and storage issues.

-Every dimension in a star schema is represented with the only one-dimension table.

-The dimension table should contain the set of attributes.

-The dimension table is joined to the fact table using a foreign key

-The dimension table are not joined to each other

-Fact table would contain key and measure

-The Star schema is easy to understand and provides optimal disk usage.

**Snowflake Schema**

**Snowflake Schema** in data warehouse is a logical arrangement of tables in a multidimensional database such that the ER diagram (Entity Relationship Diagram Model) resembles a snowflake shape. A Snowflake Schema is an extension of a Star Schema, and it adds additional dimensions. The dimension tables are normalized which splits data into additional tables.

-Dimensions Normalized.

-Data storage and integrity issues resolved.

-Join complexity increases.

-Time in queries may increase.

- The main benefit of the snowflake schema it uses smaller disk space.

## **Star Schema Vs Snowflake Schema: Key Differences**

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