Different types of fact tables essay sample

A dimension table typically has two types of columns, primary keys to fact tables and textualdescreptive data. Fact -A fact table typically has two types of columns, foreign keys to dimension tables and measures those that contain numeric facts. A fact table can contain fact's data on detail or aggregated level.

Types of Dimensions –

Slowly Changing Dimensions:

Attributes of a dimension that would undergo changes over time. It depends on the business requirement whether particular attribute history of changes should be preserved in the data warehouse. This is called a Slowly Changing Attribute and a dimension containing such an attribute is called a Slowly Changing Dimension.

Rapidly Changing Dimensions:

A dimension attribute that changes frequently is a Rapidly Changing Attribute. If you don't need to track the changes, the Rapidly Changing Attribute is no problem, but if you do need to track the changes, using a standard Slowly Changing Dimension technique can result in a huge inflation of the size of the dimension. One solution is to move the attribute to its own dimension, with a separate foreign key in the fact table. This new dimension is called a Rapidly Changing Dimension.

Junk Dimensions:

A junk dimension is a single table with a combination of different and unrelated attributes to avoid having a large number of foreign keys in the

fact table. Junk dimensions are often created to manage the foreign keys created by Rapidly Changing Dimensions.

Inferred Dimensions:

While loading fact records, a dimension record may not yet be ready. One solution is to generate an surrogate key with Null for all the other attributes. This should technically be called an inferred member, but is often called an inferred dimension.

Conformed Dimensions:

A Dimension that is used in multiple locations is called a conformed dimension. A conformed dimension may be used with multiple fact tables in a single database, or across multiple data marts or data warehouses.

Degenerate Dimensions:

A degenerate dimension is when the dimension attribute is stored as part of fact table, and not in a separate dimension table. These are essentially dimension keys for which there are no other attributes. In a data warehouse, these are often used as the result of a drill through query to analyze the source of an aggregated number in a report. You can use these values to trace back to transactions in the OLTP system.

Role Playing Dimensions:

A role-playing dimension is one where the same dimension key — along with its associated attributes — can be joined to more than one foreign key in the fact table. For example, a fact table may include foreign keys for both Ship Date and Delivery Date. But the same date dimension attributes apply to each foreign key, so you can join the same dimension table to both foreign

keys. Here the date dimension is taking multiple roles to map ship date as well as delivery date, and hence the name of Role Playing dimension.

Shrunken Dimensions:

A shrunken dimension is a subset of another dimension. For example, the Orders fact table may include a foreign key for Product, but the Target fact table may include a foreign key only for ProductCategory, which is in the Product table, but much less granular. Creating a smaller dimension table, with ProductCategory as its primary key, is one way of dealing with this situation of heterogeneous grain. If the Product dimension is snowflaked, there is probably already a separate table for ProductCategory, which can serve as the Shrunken Dimension.

Static Dimensions:

Static dimensions are not extracted from the original data source, but are created within the context of the data warehouse. A static dimension can be loaded manually — for example with Status codes — or it can be generated by a procedure, such as a Date or Time dimension.

Types of Facts –

Additive:

Additive facts are facts that can be summed up through all of the dimensions in the fact table. A sales fact is a good example for additive fact. Semi-Additive:

Semi-additive facts are facts that can be summed up for some of the dimensions in the fact table, but not the others. Eg: Daily balances fact can

be summed up through the customers dimension but not through the time dimension. Non-Additive:

Non-additive facts are facts that cannot be summed up for any of the dimensions present in the fact table. Eg: Facts which have percentages, ratios calculated.

Factless Fact Table:

In the real world, it is possible to have a fact table that contains no measures or facts. These tables are called " Factless Fact tables". Eg: A fact table which has only product key and date key is a factless fact. There are no measures in this table. But still you can get the number products sold over a period of time. Based on the above classifications, fact tables are categorized into two: Cumulative:

This type of fact table describes what has happened over a period of time. For example, this fact table may describe the total sales by product by store by day. The facts for this type of fact tables are mostly additive facts. The first example presented here is a cumulative fact table. Snapshot:

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. The second example presented here is a snapshot fact table. About these ads

Types of Facts in Data WarehouseTypes of Facts in Data Warehouse A fact table is the one which consists of the measurements, metrics or facts ofbusiness process. These measurable facts are used to know the business value and to forecast the future business. The different types of facts are explained in detail below. Additive: Additive facts are facts that can be

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A fact tables that contain aggregated facts are often called summary tables.