**Report 2018**

**Data Model Documentation**

This document outlines the data model for a system that tracks customer information, product details, and sales data. The data is organized into several relational tables to ensure data integrity and efficient retrieval.

**Main Category: Customer Details**

This table stores core information about customers.

* **Table Name:** Customers
* **Description:** This table holds essential details about the customers who place orders.
* **Columns:**
  + **Customer\_name (text):** Full name of the customer.
  + **Order\_id (text):** Unique identifier for an order. This can be a foreign key referencing the Orders table (explained below) if a customer can have multiple orders.
  + **Customer\_id (text):** Unique identifier for each customer (primary key).
  + **Segment (text):** Customer segment (e.g., Consumer, Home Office, Corporate).
  + **city (text):** City where the customer resides.
  + **State (text):** State where the customer resides (separate from Country for better normalization).
  + **Country (text):** Customer's country.
  + **Region (text):** Geographic region (e.g., South America, Caribbean).
  + **Market (text):** Sales market (e.g., LATAM, EMEA).

**Sub Category: Product Details**

This table stores information about the products offered.

* **Table Name:** Products
* **Description:** This table holds details about the products available for purchase.
* **Columns:**
  + **Product\_id (text):** Unique identifier for each product (primary key).
  + **Product\_name (text):** Name of the product.
  + **Category (text):** Main category the product belongs to.
  + **Subcategory (text):** Subcategory for more granular product classification. This can reference a separate Subcategory table (explained below) if needed.

**Co-Subcategory: Sales Data**

This table captures details about each item sold in an order.

* **Table Name:** Sales\_data
* **Description:** This table tracks specific details for each item sold within an order.
* **Columns:**
  + **Order\_id (text):** Foreign key referencing the Orders table (explained below).
  + **Product\_id (text):** Foreign key referencing the Products table.
  + **Sales (decimal):** Total sales amount for the specific item in the order.
  + **Quantity (integer):** Number of units of the product sold in the order.
  + **Discount (decimal):** Any discount applied to the product in the order.
  + **Profit (decimal):** Profit earned on the sale of the item.
  + **Shipping\_Cost (decimal):** Shipping cost associated with the item.
  + **Order\_Priority (text):** Priority level of the order (e.g., High, Medium, Low).

**Relationships Between Tables**

The tables are connected through foreign keys:

* **Customers.Order\_id (optional):** This can be a foreign key referencing the Orders table if a customer can have multiple orders.
* **Sales\_data.Order\_id:** This foreign key references the Orders table (not shown here), which would have an Order\_id column as its primary key. This links sales data to specific orders.
* **Sales\_data.Product\_id:** This foreign key references the Products table, linking sales data to specific products.

This relational structure allows for efficient retrieval of related information. For example, you can easily find all orders placed by a specific customer or retrieve sales data for a particular product.

**Additional Notes**

* This is a basic data model, and you might need to modify it based on your specific needs.
* Consider using appropriate data types for each column (e.g., date for dates, decimal for monetary values).
* Implementing proper data validation and constraints can further ensure data integrity.

This documentation provides a clear understanding of how your data is organized and how the tables relate to each other.

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