



- Define Business Process

Business Process	Description	Corresponding Fact Table(s)
Order Fulfillment	The core transaction process tracking the sale and movement of individual products to the customer.	FACT_ORDER_LINE_ITEM

<b>Order Event Tracking</b>	Recording specific events related to the order lifecycle, such as delays.	FACT_ORDER_DELAY
<b>Campaign Transaction</b>	Tracking customer participation and usage of specific marketing promotions and discounts.	FACT_CAMPAIGN_TRANSACTION

- Draft the fact tables and their grain

Fact Table	Grain (Level of Detail)	Measures (Metrics)
<b>FACT_ORDER_LINE_ITEM</b>	One row per individual Product Line Item within a specific Customer Order.	QuantitySold, LineItemPrice, LineItemDiscountAmount (Derived), LineItemTotalAmount (Calculated).
<b>FACT_CAMPAIGN_TRANSACTION</b>	One row per unique interaction (attempted or successful availment) between a Customer and a specific Campaign.	AvailedFlag (1 or 0), DiscountAppliedAmount (Derived), EstimatedArrivalDays (Non-Additive).
<b>FACT_ORDER_DELAY</b>	One row per Order that incurred a delay.	DaysDelayed.

- Draft all dimension tables

Dimension Table	Source Department(s)	Description
<b>DIM_CUSTOMER</b>	Customer Management	Details about the user (job, credit info).

<b>DIM_PRODUCT</b>	Business	Details about the products sold.
<b>DIM_MERCHANT</b>	Enterprise	Details about the sellers/vendors.
<b>DIM_STAFF</b>	Enterprise	Details about internal staff involved in order processing.
<b>DIM_CAMPAIGN</b>	Marketing	Details about the promotional campaigns.
<b>DIM_DATE</b>	Derived from all date fields	Time-based context (day, month, year, etc.).

- Identify primary keys / surrogate keys

Table Name	Primary Key (PK)	Key Type
<b>FACT_ORDER_LINE_ITEM</b>	SK_OrderLineItem	<b>Surrogate Key (PK)</b>
<b>FACT_CAMPAIGN_TRANSACTION</b>	SK_CampaignTransaction	<b>Surrogate Key (PK)</b>
<b>FACT_ORDER_DELAY</b>	SK_OrderDelay	<b>Surrogate Key (PK)</b>
<b>DIM_CUSTOMER</b>	SK_Customer	<b>Surrogate Key (PK)</b>
<b>DIM_PRODUCT</b>	SK_Product	<b>Surrogate Key (PK)</b>
<b>DIM_MERCHANT</b>	SK_Merchant	<b>Surrogate Key (PK)</b>
<b>DIM_STAFF</b>	SK_Staff	<b>Surrogate Key (PK)</b>
<b>DIM_CAMPAIGN</b>	SK_Campaign	<b>Surrogate Key (PK)</b>

<b>DIM_DATE</b>	SK_Date	<b>Surrogate Key (PK)</b> (Integer YYYYMMDD)
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- Show initial attribute list for each table

Fact Table	Foreign Keys (FK)	Degenerate Dimensions (DD)	Measures
<b>FACT_ORDER_LINE_ITEM</b>	SK_Date_Transaction, SK_Customer, SK_Merchant, SK_Product, SK_Staff	Order_ID (From order_data*)	QuantitySold (from quantity), LineItemPrice (from price), LineItemDiscountAmount, LineItemTotalAmount
<b>FACT_CAMPAIGN_TRANSACTION</b>	SK_Date_Transaction, SK_Campaign, SK_Customer	Order_ID (From transactional_campaign_data)	AvailedFlag (from availed), DiscountAppliedAmount
<b>FACT_ORDER_DELAY</b>	SK_Date_Transaction (of the original order)	Order_ID (From order_delays.html)	DaysDelayed

Dimension Table	Natural Key	Initial Attribute List	Source Columns Used
<b>DIM_CUSTOMER</b>	user_id	CustomerName (from name), JobTitle, JobLevel, CreditCardType (Inferred)	user_id, name, job_title, job_level

<b>DIM_PRODUCT</b>	product_id	ProductName, ProductType, ProductPrice (Snapshot)	product_id, product_name, product_type, price
<b>DIM_MERCHANT</b>	merchant_id	MerchantName, CreationDate, StreetAddress, City, State, Country, ContactNumber	merchant_id, creation_date, name, street, state, city, country, contact_number
<b>DIM_STAFF</b>	staff_id	StaffName, JobLevel, HireDate (Mapped from creation_date), StreetAddress, City, State, Country, ContactNumber	staff_id, name, job_level, creation_date, street, state, city, country, contact_number
<b>DIM_CAMPAIGN</b>	campaign_id	CampaignName, CampaignDescription, CampaignDiscountRate (from discount)	campaign_id, campaign_name, campaign_description, discount
<b>DIM_DATE</b>	FullDate	DayOfWeek, Month, Year, Quarter, IsWeekend, etc.	Derived from all date columns (transaction_date, creation_date, estimated arrival)