- 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

Order Event Tracking	Recording specific events related to the order lifecycle, such as delays.	FACT_ORDER_DELAY
Campaign Transaction	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)
FACT_ORDER_LINE_ITEM	One row per individual Product Line Item within a specific Customer Order.	QuantitySold, LineItemPrice, LineItemDiscountAmount (Derived), LineItemTotalAmount (Calculated).
FACT_CAMPAIGN_TRANSACTION	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).
FACT_ORDER_DELAY	One row per Order that incurred a delay.	DaysDelayed.

● Draft all dimension tables

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

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

- Identify primary keys / surrogate keys

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

DIM_DATE	SK_Date	**Surrogate Key** (PK) (Integer YYYYMMDD)

- Show initial attribute list for each table

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

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

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