Entities

Restaurant Branch
Menu
Payment methods
Order
Dining
Customer
Inventory
Dining option

Relationships

Branch – order (one to many) A branch has many orders
Payment to order: (one to many) one payment method can be used for many orders
Order to order_item: one to many) one order can have items
Orderitem to menu (many to one) many order items can have one menu
Customer to Order (one to many) a customer can have multiple orders
Branch to Inventory: (one to many) a branch can have many inventories
Menu to Inventory: (one to many) a menu can have multiple inventory records

Attributes

Branch -branch_ id, branch_name, location, address
Payment- payment_id, payment_method, datetime, amount
Dining_option: diningoption_id, dining_option
Order – order_id, customer_id, branch_id, ordered_at, payment_id, diningoption_id, amount, ordered_at
Order_item: item_id, order_id, menu_id, quantity, amount
Menu: menu_id, food_items, category, price
Customer : customer_id, name, phone_number, email, address
Inventory – inventory_id, branch_id, menu_id, date, quantity_available, quantity sold

Constraints

Foreign Key constraints between Order and Branch, Customer, Dining Options and Payment.
Foreign Key constraints between Order_item and Order, Menu.
Foreign Key constraints between Inventory and Branch, Menu.

Business Process – Order Analysis

This focuses on analyzing customer orders, whether dine-in, take-out, or online. The objective is to gain insights into order trends, customer preferences, and payment methods.

Business Questions:

- What are the sales trends across different branches, dining options, and payment methods?
- Which menu items are most popular?
- How does menu demands vary by branch and time?
- What is the average order value, and how does it differ by payment method or dining option?
- What dining option do customers prefer (dine-in, take-out, online)?

Grain

The grain is the individual order line item. Each row in the fact table will represent an item within an order, providing detailed information on the items sold, the branch, and the customer.

Fact Table: Order_Fact

The order fact table captures the numeric measures related to orders. Each record represents an item sold within an order. Attributes include:
order_id: The unique identifier for the order.
date_id: Foreign key to the Date Dimension.
branch_id: Foreign key to the Branch Dimension.
menu_id: Foreign key to the MenuItem Dimension.
customer_id: Foreign key to the Customer Dimension
paymentmethod_id: Foreign key to the Payment Method Dimension.
dining_id: Foreign key to the Dining Option Dimension.
quantity: Number of units of the item sold.
Item_price : price of each item
total_price: Total price for the item, i.e. quantity * item
order_total: addition of all items

Dimensions:

Dimensions represent attributes that describes the order and allow slicing and dicing of the data. These include:
Date Dimension: date, day, month, year, week, quarter
Branch Dimension: branch_id, branch_name, location, city, state
Menu Dimension: menu_id, menu item name, category, price
Customer Dimension : customer_id, customer name, gender, age
Payment Method Dimension: paymentmethod_id, payment_method (cash, card, online), processor (nomba, paystack)
Dining Option Dimension: diningopt_id, dining_option (dine-in, take-out, online)