Fresh Meal Kit Delivery System Database

Since people who have busy lives i.e., students, working professionals, etc., do not have time to prepare meals and are afraid that the processed food from supermarkets affects their well-being. We will deliver a home-made meal-kit service that can be prepared in minutes. But since there are multiple delivery services out there that can deliver meals within minutes, we need the best management service to increase the quality of meals, type of meals, decrease the amount of time and distance traveled by the delivery drivers, and identify the best subscription plans.

Participants:

1. **Vendors**: Our vendors are the certified local business owners/individuals/corporations that provide us home-made meal kits that are fresh and healthy. The vendors must drop off the meal-kits to our warehouses.
   - Each vendor can supply multiple types of meal kit to multiple warehouses.
   - A vendor must supply a minimum of one Meal kit.

2. **Meal kit:** We record meal kits that are delivered to customers as well as meal kits that are supplied from vendors these are stored at the warehouse. Any given meal kit can have '0' customers but must have at least '1' vendor.

3. **Customers** - The people who buy meals from us.
   - They can have monthly subscriptions or yearly subscriptions.
   - Customer should select at least one order through the subscription.
   - Customers without subscriptions can pay and buy '0 - n' number of orders.
   - Customers receive their orders through delivery workers. Each order is delivered by maximum of one delivery worker.

4. **Warehouse** - Different warehouses are in different cities where we store our frozen meals. Each warehouse has a manager. The manager can only manage one warehouse. We need at least one vendor for each warehouse. Given a warehouse, there should be at least '100' orders and at least '1' vendor.

5. **Delivery:**
   Delivery workers are the people who deliver orders from warehouses to customers.
   - At least one delivery worker should deliver the order to the customer.
   - At max he/she can deliver n number of orders to my customers.
   - Delivery workers should be assigned to only one location of the warehouse.
   - Delivery workers will be assigned to one delivery vehicle. One Delivery vehicle can be used by n delivery workers at different time, but not simultaneously.

6. **Employees:** All the people that work for our company. This includes warehouse workers, delivery drivers, and managers. Every warehouse will have minimum of e employees and maximum of n employes.

Assumptions and Functionality:

1. Our customers are within sixty miles radius of our warehouses.
2. Warehouse workers can look at what type of foods are sold, and which route has higher paid customers.
3. Customers can either buy individual meals or buy a subscription, which allows them to get 21 meal-kits per week (3 meals per day).
4. Our vendors provide us home-made fresh meal kits that have a refrigerated shelf-life of 4-7 days.
5. The owners/shareholders of the company can view the sales report for decision-making purposes.
6. The database system will allow the shareholders to identify the demographics that order the most meal-kit so that they can target them in their marketing campaigns.
7. The database system also allows the shareholders to see what type of food and which cuisine sells the most and least.
8. It also allows owners to identify the most profitable zip codes within different cities, which further helps to establish new warehouses closer to those zip codes for faster delivery.
9. The customer_ID, Warehouse_ID, Driver_ID, etc. are unique auto incremented values.

Business goals:

1. Increase sales income by determining the most popular meal-kits for the demographics with the greatest subscription rates and reduce costs by streamlining delivery routes.
2. Find meal packages that sell poorly or have a short shelf life to reduce loss.
3. Choose the ideal areas to build warehouses. This is recognized by the highest subscribing neighborhoods.
4. Capture the usage by group of people (categorized by gender, occupation, special health conditions etc.) and get offers accordingly to increase the revenue. Maximize sales by identifying the most subscribing demographics using customer's age and profession. We can target these demographics during our marketing campaigns.
5. Attract investors by showing profit/loss from each quarter.
6. Introduction of new recipes for different health conditioned people for new health goals. This can be identified using customer feedback and recipes from the most ordered meal kits.

Customers that we are targeting are Students, fitness fanatics, Truck drivers, lawyers, corporate executives, and people with long working hours.

A. **Vendors:**

Vendors supply the meal-kits to the warehouses.

1. **Vendor_ID:** unique vendor ID for each vendor
2. **Vendor_Location:** location of vendors. The actual location with street address, unit no (if any), city, state, and zip code.
3. **Warehouse_ID:** to identify which warehouse receives the fresh meal kits from which vendors.

B. **Customers:**

Our customers are the people who subscribe to our meal kit programs.

1. **Customer_ID:** Unique Customer ID for each customer
2. **Customer_name:** Name of the customer
3. **Phone_Number:** Phone number of the customer
4. **Date_Of_Birth:** Date of birth of the customer
5. **Occupation:** Occupation of the customer, for e.g., student, assistant professor, lab technician, etc.
6. **Gender:** Gender of the customer
7. **Email_ID**: email address of the customer. There could be multiple
8. **Subscription**: unique ID of the customer subscription
9. **Address**: Actual address of the customer. The actual location with street address, unit no. (if any), city, state, and zip code
10. **Subscription_Start_Date:** The subscription start date. It includes day, month, year, hour, minute, and second.
11. **Subscription_End_Date:** End date of the subscription. The last week of the subscription contract. It could be an approaching date for existing subscribers or a past date for customers who have canceled their subscription. It includes day, month, year, hour, minute, and second.
12. **Order_ID:** unique set of Order IDs received from the customers

C. **Subscription:**

These are the various kinds of meal kit plans that people can subscribe to. The meal plan includes basic, premium, and deluxe. The basic plan is a plate that contains sufficient proportions of carbs, proteins, and fats. The premium plan offers appetizer + basic plan +side of salad/yogurt/quinoa/etc. The deluxe plan offers a premium plan + dessert + drink. Some meal kits may offer an option for alcohol depending on the customer's DOB.

1. **Subscription ID:** the unique ID of the subscription

2. **Subscription_Start_Date:** The subscription start date. It includes day, month, year, hour, minute, and second.
3. **Subscription_End_Date:** End date of the subscription. The last week of the subscription contract. It could be an approaching date for existing subscribers or a past date for customers who have canceled their subscription. It includes day, month, year, hour, minute, and second.
4. **Meal_kit_ID:** Unique Id that helps us identify the type of meal ordered by the customers

D. **Meal_Kit:**

The meal-kits that are delivered to us by vendors. This is our product that we will supply to our customers. The details of the orders that we receive from the customers.

1. **Order_ID:** unique Order ID received from the customers
2. **Order_Timestamp:** Time details of the order received
3. **Meal_kit_ID:** unique ID that helps us identify the type of meal.
4. **Vendor_ID:** Vendor ID for each vendor from where the order is arrived
5. **Meal_Kit_ID:** unique ID for each type of meal
6. **Warehouse_ID**: to identify what type of meals are in stock in which warehouses.
7. **Meal_Kit_Description:** description of the meal-kit, for example, grilled-chicken plate with sides of green beans.
8. **Cuisine_Type** helps us identify the type of cuisine - Chinese, Mediterranean, etc.

E. **Warehouse:**

Warehouses are the place where we store our frozen meal kits. These places function as a hub between our vendors and the customers.

1. **Warehouse_ID:** unique ID to identify the different warehouses
2. **Warehouse_Location:** The actual location of the warehouse. The actual location with street address, unit no (if any), city, state, and zip code.
3. **Warehouse_Zip_Code**: The zip code of where the warehouses are located
4. **Customer_ID:** to identify which customers get their meals from which warehouse
5. **Delivery Worker's Vehicle:** Contains information about the vehicle data used by the delivery workers**.**
   a. **Delivery_Worker_Vehicle_ID:** Unique ID of the vehicle of the worker
   b. **Distance_Covered_By_The_Vehicle:** distance covered by that specific vehicle of Delivery_Worker_Vehicle_ID

E1: Warehouse Workers:

Staff who work in the warehouses in various locations. The warehouse workers will have access to the customer and delivery driver information. They can also see which zip code contains the most of our customers/most profitable customers. They can prioritize the

1. **Worker_SSN:** Unique ID of the worker
2. **Warehouse_ID:** to identify what type of meals are in stock in which warehouses.
3. **Worker_Department:** Warehouse worker working on vegetarian meal or non-vegetarian meal or vegan meal type.

E2: Delivery Workers:

Contains information about the delivery workers who deliver from different warehouses.

1. **Worker_SSN**: Social Security Number of the worker
2. **Date_Of_Birth:** Date of birth of the worker
3. **License_Number:** License number of the vehicle
4. **Delivery_Worker_Vehicle_ID:** Unique ID of the vehicle of the worker
5. **Meal_kit_ID:** Meal_kit_ID
6. **Order_Pick_Up_Timestamp:** Time details of the order pickup are recorded
7. **Order_Deliver_Timestamp:** Time details are recorded after the delivery
8. **Warehouse_ID**: to identify what type of meals are in stock in which warehouses.
9. **Vehicle_ID** - details of vehicle, distance covered by the vehicle details are recorded.

E3: Delivery Worker's Vehicle:

Contains information about the vehicle data used by the delivery workers**.**

1. **Delivery_Worker_Vehicle_ID:** Unique ID of the vehicle of the worker
2. **Distance_Covered_By_The_Vehicle:** distance covered by that specific vehicle of Delivery_Worker_Vehicle_ID
3. **Warehouse_ID**: to identify what type of meals are in stock in which warehouses.