**Business Flow Documentation for Data Warehouse**

**Introduction**

This document provides a comprehensive business flow for a data warehouse designed for a retail business. The primary goal of this data warehouse is to efficiently capture and analyze data related to orders, inventory, and sales. This documentation will help any user understand the business processes and how to use the data warehouse effectively.

**Business Process Overview**

The business flow in the retail business involves multiple stages starting from the procurement of products to their sale. The following sections outline each stage in detail, including the data captured and how it is stored in the data warehouse.

**1. Ordering Process**

**Description:**

The ordering process begins when a store places an order for products. This order is then reported to the procurement head for approval and further processing.

**Steps:**

1. **Store Places Order:**
   * A store identifies the need for products and places an order.
   * The order includes various details such as order date, products needed, quantity, and supplier information.
2. **Order Processing:**
   * The order is reviewed and approved by the procurement head.
   * Once approved, the order details are recorded in the data warehouse.

**Data Captured:**

* **Fact\_Order Table:**
  + **OrderID**: Unique identifier for each order.
  + **OrderDateID**: Date when the order was placed.
  + **InvoiceDateID**: Date when the invoice was generated.
  + **PayDateID**: Date when the payment was made.
  + **SupplierID**: Identifier for the supplier.
  + **OrderQuantity**: Total quantity of items ordered.
  + **TotalCost**: Total cost of the order.
  + **FreightCost**: Cost of freight for the order.
* **Fact\_Order\_Items Table:**
  + **OrderItemID**: Unique identifier for each order item.
  + **OrderID**: Identifier for the order.
  + **ProductID**: Identifier for the product.
  + **StoreID**: Identifier for the store that ordered the items.
  + **SupplierID**: Identifier for the supplier.
  + **BrandID**: Identifier for the brand of the product.
  + **QuantityOrdered**: Quantity of the product ordered.
  + **UnitPrice**: Price per unit of the product.
  + **TotalCost**: Total cost for this order item.

**2. Inventory Management**

**Description:**

After the ordered products arrive at the store, they are added to the store's inventory. This helps track the quantity of products available for sale.

**Steps:**

1. **Product Receipt:**
   * The ordered products are received at the store.
   * Details such as the received quantity and receipt date are recorded.
2. **Inventory Update:**
   * The inventory is updated with the received products.
   * Inventory levels are monitored to ensure optimal stock levels.

**Data Captured:**

* **Fact\_Inventory Table:**
  + **InventoryID**: Unique identifier for each inventory record.
  + **ProductID**: Identifier for the product.
  + **StoreID**: Identifier for the store.
  + **QuantityReceived**: Quantity of the product received at the store.
  + **ReceiptDateID**: Date when the product was received.
  + **Cost**: Cost of the received product.

**3. Sales Process**

**Description:**

When products are sold at the store, the sales data is recorded. This includes details such as the quantity sold, total sales amount, and any discounts or taxes applied.

**Steps:**

1. **Product Sale:**
   * Products are sold to customers at the store.
   * Sales details are captured at the point of sale.
2. **Sales Recording:**
   * The sales data is recorded in the data warehouse.
   * This includes information such as the quantity sold and total sales amount.

**Data Captured:**

* **Fact\_Sales Table:**
  + **SaleID**: Unique identifier for each sale.
  + **InventoryID**: Identifier for the inventory record.
  + **ProductID**: Identifier for the product.
  + **StoreID**: Identifier for the store.
  + **TimeID**: Date when the sale was made.
  + **QuantitySold**: Quantity of the product sold.
  + **TotalSalesAmount**: Total sales amount for the product sold.
  + **DiscountAmount**: Discount applied to the sale.
  + **Taxes**: Taxes applied to the sale.

**Dimension Tables**

**Dim\_Store**

* **StoreID**: Unique identifier for each store.
* **StoreName**: Name of the store.
* **Location**: Location of the store.

**Dim\_Time**

* **TimeID**: Unique identifier for each time record.
* **Date**: Date value.
* **DayOfWeek**: Day of the week.
* **Month**: Month of the year.
* **Quarter**: Quarter of the year.
* **Year**: Year.
* **IsHoliday**: Boolean indicating if the date is a holiday.

**Dim\_Supplier**

* **SupplierID**: Unique identifier for each supplier.
* **SupplierName**: Name of the supplier.
* **Country**: Country of the supplier.

**Dim\_Brand**

* **BrandID**: Unique identifier for each brand.
* **BrandName**: Name of the brand.
* **SupplierID**: Identifier for the supplier.

**Dim\_Product**

* **ProductID**: Unique identifier for each product.
* **ProductName**: Name of the product.
* **Description**: Description of the product.
* **BrandID**: Identifier for the brand.
* **Size**: Size of the product.
* **Price**: Price of the product.
* **Cost**: Cost of the product.
* **SupplierID**: Identifier for the supplier.

**Summary**

This data warehouse captures the essential business processes of ordering, inventory management, and sales in a retail environment. By understanding the flow of data and the structure of the data warehouse, users can efficiently manage and analyze business operations. This documentation provides the necessary details to utilize the data warehouse effectively for decision-making and reporting.