Explanation of Supply Chain Dataset Columns

The dataset provided in the `supplychain.xlsx` file contains detailed information about customer orders, shipping logistics, and product details in a supply chain context. Below is a detailed explanation of each column in the dataset, describing its purpose and significance.

Column Descriptions

1. **Type**
   - **Description**: Specifies the payment method used for the order.
   - **Example Values**: DEBIT, TRANSFER, CASH, PAYMENT
   - **Purpose**: Indicates how the customer paid for the order, which can influence financial processing and risk assessment (e.g., fraud detection).
2. **Days for shipping (real)**
   - **Description**: The actual number of days taken to ship the order.
   - **Example Values**: 3, 5, 4, 2, 6
   - **Purpose**: Measures the real-world shipping performance, useful for evaluating logistics efficiency.
3. **Days for shipment (scheduled)**
   - **Description**: The planned number of days for shipping the order.
   - **Example Values**: 4, 1
   - **Purpose**: Represents the expected shipping timeline, allowing comparison with actual shipping time to assess delays.
4. **Benefit per order**
   - **Description**: The profit earned from the order after accounting for costs.
   - **Example Values**: 91.25, -249.0899963, 22.86000061
   - **Purpose**: Indicates the financial outcome of the order, critical for profitability analysis. Negative values suggest losses.
5. **Sales per customer**
   - **Description**: The total sales amount associated with the customer for this order.
   - **Example Values**: 314.6400146, 311.3599854, 309.7200012
   - **Purpose**: Tracks customer spending, useful for customer segmentation and marketing strategies.
6. **Delivery Status**
   - **Description**: The status of the delivery process.
   - **Example Values**: Advance shipping, Late delivery, Shipping on time, Shipping canceled
   - **Purpose**: Summarizes the outcome of the shipping process, helping identify logistical issues.
7. **Late_delivery_risk**
   - **Description**: A binary indicator of whether the order is at risk of late delivery (1 = risk, 0 = no risk).
   - **Example Values**: 0, 1

- **Purpose**: Flags potential delays, aiding in proactive logistics management.
8. **Category Id**
   - **Description**: A unique identifier for the product category.
   - **Example Values**: 73
   - **Purpose**: Links the order to a specific product category for inventory and sales analysis.
9. **Category Name**
   - **Description**: The name of the product category.
   - **Example Values**: Sporting Goods
   - **Purpose**: Provides a human-readable description of the product category.
10. **Customer City**
    - **Description**: The city of the customer's address.
    - **Example Values**: Caguas, San Jose, Los Angeles, Tonawanda, Miami
    - **Purpose**: Identifies the customer's location for regional analysis and logistics planning.
11. **Customer Country**
    - **Description**: The country of the customer's address.
    - **Example Values**: Puerto Rico, EE. UU. (United States)
    - **Purpose**: Supports global market analysis and compliance with international regulations.
12. **Customer Fname**
    - **Description**: The first name of the customer.
    - **Example Values**: Cally, Irene, Gillian, Tana, Orli
    - **Purpose**: Personalizes customer data for communication and tracking.
13. **Customer Id**
    - **Description**: A unique identifier for the customer.
    - **Example Values**: 20755, 19492, 19491
    - **Purpose**: Enables tracking of individual customer activity across orders.
14. **Customer Lname**
    - **Description**: The last name of the customer.
    - **Example Values**: Holloway, Luna, Maldonado
    - **Purpose**: Completes customer identification for record-keeping.
15. **Customer Segment**
    - **Description**: The segment or type of customer.
    - **Example Values**: Consumer, Home Office, Corporate
    - **Purpose**: Categorizes customers for targeted marketing and service strategies.
16. **Customer State**
    - **Description**: The state or region of the customer's address.
    - **Example Values**: PR (Puerto Rico), CA (California), NY (New York), FL (Florida)
    - **Purpose**: Provides granularity for regional analysis within a country.
17. **Department Id**
    - **Description**: A unique identifier for the department handling the product.
    - **Example Values**: 2
    - **Purpose**: Links the order to a specific organizational department.
18. **Department Name**

- o **Description**: The name of the department handling the product.
- o **Example Values**: Fitness
- o **Purpose**: Describes the department for operational and reporting purposes.

19. **Latitude**
- o **Description**: The latitude coordinate of the customer's location.
- o **Example Values**: 18.2514534, 37.29223251, 25.92886925
- o **Purpose**: Enables geospatial analysis for logistics and market mapping.

20. **Longitude**
- o **Description**: The longitude coordinate of the customer's location.
- o **Example Values**: -66.03705597, -121.881279, -80.16287231
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System: **Explanation of Supply Chain Dataset Columns (Continued)**

Below is the continuation of the detailed explanation of each column in the `supplychain.xlsx` dataset, picking up where the previous response left off.

Column Descriptions (Continued)

20. **Longitude**
- o **Description**: The longitude coordinate of the customer's location.
- o **Example Values**: -66.03705597, -121.881279, -80.16287231
- o **Purpose**: Complements latitude for precise geospatial analysis, aiding in logistics optimization and market segmentation.

21. **Market**
- o **Description**: The regional market where the order is placed.
- o **Example Values**: Pacific Asia, South Asia, Oceania, Eastern Asia
- o **Purpose**: Identifies the broader market region for strategic sales and distribution planning.

22. **Order City**
- o **Description**: The city where the order is shipped to.
- o **Example Values**: Bekasi, Bikaner, Townsville, Toowoomba, Guangzhou
- o **Purpose**: Specifies the destination city for shipping, critical for logistics and delivery tracking.

23. **Order Country**
- o **Description**: The country where the order is shipped to.
- o **Example Values**: Indonesia, India, Australia, China
- o **Purpose**: Supports international logistics and compliance with cross-border regulations.

24. **Order Customer Id**
- o **Description**: The customer ID associated with the order, matching the `Customer Id`.
- o **Example Values**: 20755, 19492, 19491
- o **Purpose**: Links the order to a specific customer, ensuring consistency in customer tracking.

25. **order date (DateOrders)**

- Description: The date and time when the order was placed, represented as a fractional number (Excel-style timestamp).
  - Example Values: 43131.955555555556, 43113.51875, 43113.504166666666
  - Purpose: Tracks the timing of orders for demand forecasting and trend analysis.

26. **Order Id**
   - Description: A unique identifier for the order.
   - Example Values: 77202, 75939, 75938
   - Purpose: Enables tracking and management of individual orders throughout the supply chain.

27. **Order Item Cardprod Id**
   - Description: The product ID associated with the order item.
   - Example Values: 1360
   - Purpose: Links the order to a specific product in the inventory system.

28. **Order Item Discount**
   - Description: The monetary discount applied to the order item.
   - Example Values: 13.10999966, 16.38999939, 18.03000069
   - Purpose: Quantifies the discount, impacting the final sales amount and profitability.

29. **Order Item Discount Rate**
   - Description: The percentage discount applied to the order item.
   - Example Values: 0.039999999, 0.050000001, 0.059999999
   - Purpose: Indicates the discount rate, useful for pricing strategy analysis.

30. **Order Item Id**
   - Description: A unique identifier for the order item within the order.
   - Example Values: 180517, 179254, 179253
   - Purpose: Tracks individual items within an order, especially for multi-item orders.

31. **Order Item Product Price**
   - Description: The original price of the product before discounts.
   - Example Values: 327.75
   - Purpose: Provides the base price for calculating sales and discounts.

32. **Order Item Profit Ratio**
   - Description: The ratio of profit to the cost of the order item.
   - Example Values: 0.289999992, -0.800000012, 0.079999998
   - Purpose: Measures the profitability of the item, with negative values indicating losses.

33. **Order Item Quantity**
   - Description: The number of units of the product ordered.
   - Example Values: 1
   - Purpose: Tracks the quantity sold, essential for inventory management.

34. **Sales**
   - Description: The total sales amount for the order item before discounts.
   - Example Values: 327.75
   - Purpose: Represents the gross sales value, used for revenue tracking.

35. **Order Item Total**
   - Description: The final sales amount for the order item after applying discounts.

- o **Example Values**: 314.6400146, 311.3599854, 309.7200012
- o **Purpose**: Reflects the net sales amount, critical for financial reporting.

36. **Order Profit Per Order**
- o **Description**: The profit earned from the entire order, matching `Benefit per order`.
- o **Example Values**: 91.25, -249.0899963, -247.7799988
- o **Purpose**: Summarizes the order's financial outcome, aligning with `Benefit per order`.

37. **Order Region**
- o **Description**: The geographic region of the order destination.
- o **Example Values**: Southeast Asia, South Asia, Oceania, Eastern Asia
- o **Purpose**: Provides regional context for logistics and market analysis.

38. **Order State**
- o **Description**: The state or province of the order destination.
- o **Example Values**: Java Occidental, Rajastán, Queensland, Guangdong
- o **Purpose**: Adds granularity to destination tracking for regional logistics.

39. **Order Status**
- o **Description**: The current status of the order.
- o **Example Values**: COMPLETE, PENDING, CLOSED, PENDING_PAYMENT, CANCELED, PROCESSING
- o **Purpose**: Tracks the order's progress through the supply chain, aiding in workflow management.

40. **Product Card Id**
- o **Description**: The product ID, matching `Order Item Cardprod Id`.
- o **Example Values**: 1360
- o **Purpose**: Ensures consistency in product identification across the dataset.

41. **Product Category Id**
- o **Description**: The category ID for the product, matching `Category Id`.
- o **Example Values**: 73
- o **Purpose**: Links the product to its category, aligning with `Category Id`.

42. **Product Name**
- o **Description**: The name of the product.
- o **Example Values**: Smart watch
- o **Purpose**: Provides a human-readable product description for inventory and sales reporting.

43. **Product Price**
- o **Description**: The price of the product, matching `Order Item Product Price`.
- o **Example Values**: 327.75
- o **Purpose**: Confirms the product's base price for consistency.

44. **Product Status**
- o **Description**: The availability status of the product.
- o **Example Values**: 0 (likely indicating available)
- o **Purpose**: Indicates whether the product is in stock or discontinued.

45. **shipping date (DateOrders)**
- o **Description**: The date and time when the order was shipped, represented as a fractional number.

- o **Example Values**: 43134.955555555556, 43118.51875, 43117.504166666666
- o **Purpose**: Tracks the actual shipping date for performance evaluation.
46. **Shipping Mode**
    - o **Description**: The method of shipping used for the order.
    - o **Example Values**: Standard Class, First Class
    - o **Purpose**: Indicates the shipping service level, impacting cost and delivery time.

Summary

The `supplychain.xlsx` dataset provides a comprehensive view of supply chain operations, covering customer details, order logistics, financial metrics, and product information. Each column serves a specific purpose, from tracking customer demographics and order statuses to analyzing profitability and shipping performance. This dataset is valuable for optimizing logistics, improving customer segmentation, and enhancing financial outcomes in a supply chain context.