Lab Exercise 1

1. Analysis: DOUBLE CHECK!
   1. Completeness – There are no missing values
   2. Inconsistencies – There are no inconsistencies in the data types, no spelling mistakes, and no invalid entries
   3. Redundancies – There are no redundancies in order numbers
   4. Duplicates – There are no duplicates
2. Target Audience
   1. **Operational Report**

*Assumptions:*

The target audience for the operational reports are the **regional managers** and **store-level staff** who are responsible for day-to-day activities.

Each target audience will only be interested in their own area of responsibility; i.e., the South Regional Manager will only focus on South Region.

The target audience is focused on **detailed information** on sales, quantity, product categories for their respective area of responsibility.

*Intended Use:*

These reports will focus on **performance monitoring** by providing information on sales and profitability for each city in their respective regions, **decision making** by identifying underperforming stores and categories, **resource allocation** by showing which stores need more staffing and inventory, and **problem solving** by showing which orders and categories are more likely to be returned.

* 1. **Executive Report**

*Assumptions:*

The target audience for the executive reports are the **senior executives** and **board directors.**

The target audience is focused on **high-level** data analysis such as sales and profit trends, regional performance, and opportunities for growth.

*Intended Use:*

These reports will focus on high level **performance monitoring** by providing information on sales and profitability on a regional level and on a periodical basis, **decision making** by identifying underperforming regions and sales trends, **resource allocation** to assist understaffed regions, and **problem solving** to elevate underperforming regions.

1. Context and Additional Assumptions
   1. Operational Report
      1. Cost Column – add if you want
      2. Sales by Category
      3. Sales by Product
   2. Executive Report
      1. MoM Profit %
      2. MoM Sales %
      3. Sales Forecast (!!) - Linear Regression maybe? add if you want
2. Operational and Executive Reports
   1. **Operational Report**

The operational report will contain aggregate KPIs based on each regional manager’s area of responsibility. These reports will provide critical information to help the managers make informed decisions and manage their regions effectively.

**KPIs:**

Sales - Revenue generated

Quantity – number of items in the order

Profit – Sales - Cost

Returned Order – Returns “Yes” if the order has been returned by the customer

Ship Mode – Type of shipping method for orders ranging from same-day to standard class of which same-day is the fastest and standard is the slowest

Segment – A class of whom the order is placed by

Category – The type of ordered product

* 1. **Executive Report**

The executive report will contain aggregate company KPIs. This will include all the information from all regions and will provide high level understanding of the current company performance to assist in decision making for

**KPIs:**

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Quantity – number of items in the order

Profit – Sales - Cost

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MoM Profit % - % Change in month-to-month profit for each aggregate.

MoM Sales % - % Change in month-to-month sales for each aggregate.

Sales Forecast – A linear regression ML algorithm to predict future sales value

ADD more definition and KPIs depending on finalized report format

1. Empty Templates

Sketch/Provide tables with headers of KPIs and aggregate data. See examples. This could be multiple tables for both reports. Just need empty tables. Low level sketches.