Project steps

Project definition:

This project aims to comprehensively analyze the performance of the gym, with a focus on sales and overall performance analysis. Through this project, we were able to understand the gym's performance from all angles, conducting a detailed analysis of the data related to customers, sales, and returns for each location and time period. Thanks to this thorough analysis, we gained a holistic view of the operation and identified strengths and opportunities for improvement.

❖ **Understanding the business we are analyzing:**

In this process, which is one of the most important stages, we started by understanding the business we are analyzing. From there, we began by reading the data and extracting the key insights and KPIs for the business. To achieve this, we first identified the available tables, which are as follows:
Available Tables:

1. Customer Analysis
2. Location Analysis
3. Product Analysis
4. Change the cost of the product by changing the date and location
5. Sales Details and Sales Header (Fact Table)
6. Return Analysis

Afterward, we identified the main KPIs for the business, which include:
1. Revenue
2. Cost
3. Gross Margin
4. Quantity Sold (#QYT)
5. Number of Orders (#Orders)
6. Number of Customers (#Customers)

Then, we created a list of KPIs derived from the data, which are as follows:

1. Revenue by Business Type
2. Revenue by Customer (Custom Customers)
3. Revenue by City
4. Revenue by County
5. Revenue by Region
6. Revenue by Product (Size, Details)
7. Time Analysis (Comparison, Average Delivery Time)
8. Revenue by Category

Next, we examined the relationships between the KPIs, and the key relationships identified were:

1. Relationship between Revenue and Cost
2. Relationship between Revenue and Profit
3. Relationship between Profit and Cost
4. Relationship between Revenue and Unit Price
5. Relationship between #Customers, Revenue, and Profit

Following that, we analyzed each KPI in its respective table. We started with Customer Analysis and identified the following indicators:

1. Average Order Value (AOV)
2. Customer Frequency
3. Churn Analysis (Customer Relations)

We then looked into the returns data and extracted the following insights:

1. Returns Amount
2. Returns Customers
3. Returns Quantity (QYT)
4. Returns Orders
5. Returns Customers by Month
6. Returns Orders by Month
7. Returns Customers by Region, City, or State
8. Returns Orders by Subcategory or Category
9. Customers with the Most Returns
10. Average Delivery Time

Additionally, we conducted product and sales time analysis and derived the following indicators:

1. Revenue – Variance from Last Year (LY) and Percentage Change
2. Profit – Gross Margin – Variance from LY%
3. Cost – Cost% – Variance from LY%
4. Year-to-Date (YTD) Revenue
5. Revenue by Month Name
6. Variance from the Same Period Last Year
7. Month-over-Month (MOM) Change
   Product Analysis:
1. Gross Margin Percentage (GM%)
2. Cost Percentage (Cost%)
3. Returns Amount Percentage (Returns Amount%)
4. Returns Order Percentage (Returns Order%)

❖ ETL Second Step:

In this process, we gathered data from various Excel files and loaded it into Power Query to prepare and clean the data to the required format. The key steps in the process included:

- Merging the locations table with the tables containing customer data.
- Merging the category and sub-category tables with the tables containing product data.
- Reorganizing the data by linking the sales header table with the sales details table, converting the data from a normalized format to a denormalized one.
- Merging the product cost table with the sales details table to obtain the unit cost table, with the merge done based on four common columns.

After completing these steps, we loaded the tables into the Data Model and designed an appropriate model to ensure data accuracy and allow for precise calculations.

❖ Draw Dashboard:

When designing the dashboard, we began by identifying the key scenarios that needed to be presented in a clear and appropriate manner to facilitate understanding of the overall business performance. We ensured that the information displayed was comprehensive, offering a holistic view by focusing on the most important KPIs and reports relevant to stakeholders. The main goal of this design is to simplify the decision-making process by providing accurate and summarized data.

Steps for Preparing the Dashboard:

1. **Identifying Key Scenarios**:

   - We identified the key scenarios to be highlighted, such as financial performance, sales, top-selling products, as well as customer and returns analysis.

2. **Arranging Components Clearly**:

   - The primary KPIs were placed prominently for quick visibility, including revenue, cost, and gross margin.
   - We organized charts for customer and sales analysis in a way that makes it easy to track performance trends over time, such as revenue analysis by region or category.

3. **Using Dynamic Filters**:

   - Dynamic filters were added to allow users to view data based on specific dates, geographic locations, or product categories, enhancing the ability to dive deeper into performance details.

4. **Linking the Metrics**:

   - We established links between the various metrics, enabling users to see the relationship between revenue, cost, and profits, as well as between customer numbers and sales, providing a comprehensive picture for analysis.

5. **Utilizing Interactive Visuals**:

   - Interactive visualizations were used to allow users to engage directly with the data, whether through clicking on charts or using custom filters to get more detailed insights.

The designed dashboard offers users a seamless and comprehensive experience, allowing them to gain a holistic view and detailed analysis of performance in a flexible and dynamic way.