Mavon Electronics Project Documentation

Overview
Mavon Electronics is a global retailer specializing in TVs, computers, appliances, and more.

Data Sources

- **Transactional Records**: SQL databases
- **Product Details**: CSV file
- **Store Locations**: Exported from PDF by an IT colleague

Tools and Features Utilized

Data Integration and Modeling Techniques

- **Power Query**
- **Power Pivot**
- **DAX (Data Analysis Expressions)**
- **Data Model**

Step 1: Data Extraction, Transformation, and Loading (ETL)

Utilized Power Query to extract, transform, and load data from multiple sources, establishing automated workflows for seamless data integration.

Data Loading Process:

1. **Sales Data from SQL Database**:
   - **Server Name**: ZION_HP_PROBOOK\SQLEXPRESS
   - **Database Name**: Sales Record
   - Open Query Editor to explore data.
   - Navigate to **Home** > **Close & Load To** > Select **Only Create Connection** to add to the data model.
2. **Product Data from CSV**:
   - Loaded product details from the CSV file.
3. **Store Location from PDF**:
   - Imported relevant columns only, removing unnecessary data.
   - Promoted the first row to become the header row.

4. **Creating a Calendar Table**:
   ○ Duplicated the sales table.
   ○ Kept only the "Order Date" column and removed duplicates.
   ○ Renamed the table and added relevant date attributes (Name of Day, Start of Week, Start of Month, Year).

Step 2: Data Modeling

Developed a robust data model to store compressed data and establish relational connections between tables:

● Established a **one-to-many relationship** in the data model (Fact Table: Sales, Dimension Tables: Products, Store Locations).

Step 3: Data Analysis with Power Pivot

Created a pivot table using the data model to analyze key metrics.

Step 4: DAX Measures

Developed essential DAX measures for analysis:

Total Revenue:
dax
Copy code
```
Total Revenue = SUMX(Sales, [Quantity] * RELATED(Products[Price]))
```

●

Total Orders:
dax
Copy code
```
Total Orders = DISTINCTCOUNT([Order_Number])
```

●

Error Resolution

● Encountered an error while creating the Total Revenue measure.
   ○ Edited the sales table to create a new column using "FROM EXAMPLE."
   ○ Converted the new column to currency format.

     ○   Upon retrying the Total Revenue measure, the error was resolved.

Data Visualization

- **Revenue by Month**
- **Orders by Category**

Conclusion

This project exemplifies my ability to leverage advanced data integration and analytical techniques to derive meaningful insights from diverse datasets. My experience with Power Query, Power Pivot, and DAX, combined with effective data modeling, has equipped me with the skills necessary to excel in a data analytics role. I am eager to bring my expertise to a dynamic team and contribute to impactful data-driven decision-making.