Lab Exercise 1: Creating Relationships

Scenario

The data in your organization is spread across several sources. To begin with, you will import data extracts from Excel worksheets. The data should be related, so you will examine the relationships that Power BI detects automatically. Because the sales data is an extract, Power BI might not detect all relationships, or create them correctly, so you will have to configure them.

The main tasks for this exercise are as follows:

1. Preparing the Environment
2. Automatic Relationships
3. Manual Relationships

Task 1: Preparing the Environment

1. Ensure that the 20778A-MIA-DC and 20778A-MIA-SQL virtual machines are both running, and then log on to 20778A-MIA-SQL as ADVENTUREWORKS\Student with the password Pa$$w0rd.
2. Run Setup.cmd in the D:\Labfiles\Lab05\Starter folder as Administrator.
3. If you do not already have a Power BI login, go to https://powerbi.microsoft.com/en-us/documentation/powerbi-admin-signing-up-for-power-bi-with-a-new-office-365-trial, and follow the steps to create an account.
4. Download and install the Microsoft Power BI Desktop from https://www.microsoft.com/en-us/download/details.aspx?id=45331.

Task 2: Automatic Relationships

1. Open Power BI Desktop from the taskbar.
2. From Get Data, connect to Adventure Works Sales Data.xlsx in the D:\Labfiles\Lab05\Starter\Project folder.
3. Import the DimCurrency, DimCustomer, DimDate, DimProduct, DimPromotion, DimSalesTerritory, and FactInternetSales worksheets.
4. Click the Relationships view.

5. Create a new relationship between the FactInternetSales table OrderDateKey column, and the DateKey column in DimDate. Set the cardinality as Many to One (*:1), the cross-filter direction to Single, and make this relationship active.
6. Create a new relationship between the FactInternetSales table DueDateKey column, and the DateKey column in DimDate. Set the cardinality as Many to One (*:1), and the cross-filter direction to Single.
7. In the Relationships view, drag the ShipDateKey column in the FactInternetSales table to the DateKey column of the DimDate column to create a new relationship.
8. Use Manage Relationships to change the cross-filter direction of the relationship between FactInternetSales and DimCurrency to Single.
9. Use Manage Relationships to change the cross-filter direction of the relationship between FactInternetSales and DimProduct to Single.
10. Use Manage Relationships to change the cross-filter direction of the relationship between FactInternetSales and DimPromotion to Single.
11. Use Manage Relationships to change the cross-filter direction of the relationship between FactInternetSales and DimSalesTerritory to Single.
12. Change the relationship between FactInternetSales and DimCustomer so this is Many to One (*:1) from FactInternetSales. Set the cross-filter direction to Both.
13. Save the file to the D:\Labfiles\Lab05\Starter folder and name it Adventure Works Sales.pbix.
14. Leave Power BI Desktop open for the next exercise.

Task 3: Manual Relationships

1. Open the Adventure Works Product Categories.xlsx file, located in the D:\Labfiles\Lab05\Starter\Project folder.
2. Add DimProductCategory, and DimProductSubcategory to the dataset.
3. Delete the relationship between DimProductCategory, and DimProductSubcategory.
4. Create a new One to Many (1: *) relationship between DimProductCategory, and DimProductSubcategory, by dragging the CategoryKey from DimProductCategory, to CategoryKey on DimProductCategory. The cross-filter direction should be Both.
5. Drag the ProductSubcategoryKey column in the DimProduct table, to the SubcategoryKey column in the DimProductSubcategory table, to create a Many to One (*:1) relationship, and a cross filter direction of Both.

6. Save the file.
7. Leave Power BI Desktop open for the next exercise.

Results: At the end of this exercise, you will have a dataset combining data from two Excel worksheets, with relationships between the tables.