



Module 4: Assignment

Problem Statement:

You work as a Power BI Developer in a leading software company. As a BI professional, you are asked to explore ways in which AdventureWorks can empower business and build a report based on sales.

Tasks To Be Performed:

- a. In Power BI Desktop, connect to AdventureWorks Sales Data.xlsx
- b. Import DimCurrency, DimCustomer, DimDate, DimProduct, DimPromotion, DimSalesTerritory, and FactInternetSales worksheets
- c. Create a new relationship between the FactInternetSales table's OrderDateKey column and the DateKey column in DimDate. Set the cardinality as Many to One (*:1), the cross-filter direction as Single, and make this relationship Active
- d. Create a relationship from FactInternetSales [DueDateKey] to DimDate [DateKey]
- e. Create a relationship between FactInternetSales [ShipDateKey] and DimDate [DateKey]
- f. In Power BI Desktop, load the DimProductCategory and DimProductSubcategory data from the AdventureWorks Product Categories.xlsx file
- g. Delete the relationship between DimProductCategory and DimProductSubcategory
- h. Create a Many to One (*:1) between DimProductSubcategory [CategoryKey] and DimProductCategory [CategoryKey] and make the cross-filter direction to both
- i. Create a Many to One (*:1) between DimProduct [ProductSubcategoryKey] and DimProductSubcategory [SubcategoryKey] and make the cross-filter direction to both
- j. Add a calculated column named IncomeStatus to the DimCustomer table based on the YearlyIncome column. Income should be classified as follows:
 - Lower than 25,000: Lower Income
 - Between 25,000 and 60,000: Middle Income
 - Between 60,000 and 100,000: Higher Income
 - 100,000 and upward: Very High Income

- k. Add a calculated column named DaysSinceFirstPurchase to the DimCustomer table to show the number of days since a customer made the first purchase
- l. Add a calculated column named FullName to DimCustomer, which concatenates the FirstName and the LastName
- m. Add a calculated column named MaleFemale to DimCustomer, which converts the values of the Gender column to Male or Female
- n. Add a calculated column to DimCustomer, called Relationship, which converts the value of the MaritalStatus column to Married or Single
- o. Add a calculated column called MainCategory to the DimProductSubcategory table, which gets the category name from DimProductCategory
- p. Add a calculated column called PromotionLengthDays to the DimPromotion table, which is the difference between StartDate and EndDate
- q. Add a calculated column called Profit to FactInternetSales, and show the difference between UnitPrice and ProductStandardCost formatted as currency
- r. Save the changes, and close Power BI Desktop