Adventure Works Cycles is a large, multinational manufacturing company. The company manufactures and sells metal and composite bicycles to North American, European and Asian commercial markets. While its base operation is located in Bothell, Washington with 290 employees, several regional sales teams are located throughout their market base.

In 2009, Adventure Works Cycles bought a small manufacturing plant, Importadores Neptuno, located in Mexico. Importadores Neptuno manufactures several critical subcomponents for the Adventure Works Cycles product line. These subcomponents are shipped to the Bothell location for final product assembly. In 2010, Importadores Neptuno, became the sole manufacturer and distributor of the touring bicycle product group.

Coming off a successful fiscal year, Adventure Works Cycles is looking to broaden its market share by targeting their sales to their best customers, extending their product availability through an external Web site, and reducing their cost of sales through lower production costs.

1. Product, Customer, Sales and Targets are stored in Excel workbooks, csv/txt files. Extract the ZIP file shared by instructor.

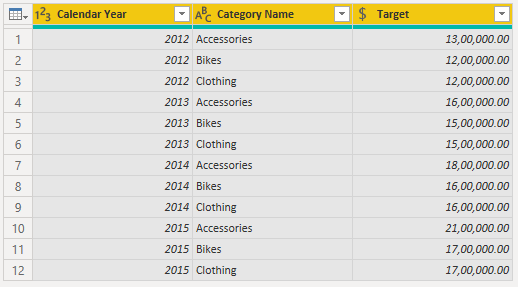
A screenshot of a computer

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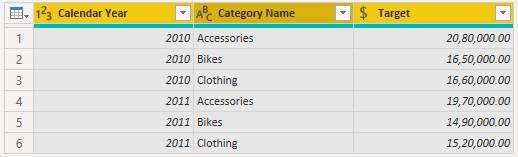
1. Create four parameters to store the location of these files.
2. Dataset.xls workbook has information about the customers, their geography, products and sales.

|  |  |  |
| --- | --- | --- |
| Table | Contains this kind of content | Comment |
| DimProduct | Information about each product sold by Adventure Works Cycles or used to manufacture Adventure Works Cycles bicycles and bicycle components. | The **FinishedGoodsFlag** column indicates whether a product is sold. Products that are not sold are components of a product that is sold. |
| DimProductCategory | The most general classification of products. For example, bike or accessory. |  |
| DimProductSubCategory | Subcategories of product categories. For example, Mountain, Road, and Touring are subcategories of the category Bike. |  |
| DimGeography | State, city, pin code of each country |  |
| DimCustomer | Customer details including date of joining, annual income, family |  |
| FactInternetSales | Contains individual customer Internet sales order and detail data. |  |

1. Import the following tables from Dataset workbook (DON’T import DimDate)
   * DimProduct
   * DimProductSubCategory
   * DimProductCategory
   * FactInternetSales
   * DimCustomer
   * DimGeography
2. Rename the queries
   * DimProduct to Product
   * DimProductSubCategory to Product Subcategory,
   * DimProductCategory to Product Category,
   * FactInternetSales to Sales
   * DimCustomer to Customer
   * DimGeography to Geography
3. Group the queries based on its purpose
4. Apply the following transformations to Customer query
   1. Remove the following columns
      1. CustomerAlternateKey
      2. Title
      3. NameStyle
      4. Suffix
      5. EmailAddress
      6. NumberChildrenAtHome
      7. SpanishEducation
      8. FrenchEducation
      9. SpanishOccupation
      10. FrenchOccupation
      11. Phone
      12. CommuteDistance
   2. Merge FirstName, MiddleName and LastName columns into Name column
   3. Do the following value replacements
      1. MaritalStatus = M to Married, S to Single
      2. Gender = M to Male, F to Female
      3. HouseOwnerFlag = 1 to Yes, 0 to No
   4. Rename the following columns
      1. EnglishEducation to Education
      2. EnglishOccupation to Occupation
5. Apply the following transformations to Sales query
   1. Keep the following columns
      1. Product Key
      2. Order Date
      3. Due Date
      4. Ship Date
      5. Customer Key
      6. Sales Order Number
      7. Order Quantity
      8. Product Standard Cost
      9. Tax Amount
      10. Sales Amount
6. Create a Date query
   * 1. Full Date
     2. Day Number Of Week
     3. Day Name Of Week
     4. Day Number Of Month
     5. Day Number Of Year
     6. Week Number Of Year
     7. Month Name
     8. Month Number Of Year
     9. Calendar Quarter
     10. Calendar Year
7. Apply the following transformations to Geography query
   1. Remove the following columns
      1. StateProvinceCode
      2. CountryRegionCode
      3. SpanishCountryRegionName
      4. FrenchCountryRegionName
      5. SalesTerritoryKey
      6. IpAddressLocator
8. Apply the following transformations to Product Category query
   1. Remove the following columns
      1. ProductCategoryAlternateKey
      2. SpanishProductCategoryName
      3. FrenchProductCategoryName
   2. Rename the following column
      1. EnglishProductCategoryName to Product Category Name
9. Apply the following transformations to Product Subcategory query
   1. Remove the following columns
      1. ProductSubcategoryAlternateKey
      2. SpanishProductSubcategoryName
      3. FrenchProductSubcategoryName
   2. Rename the following column
      1. EnglishProductSubcategoryName to Product Subcategory Name
10. Apply the following transformations to ProZduct query
    1. Keep the following columns
       1. ProductKey
       2. ProductSubcategoryKey
       3. EnglishProductName
       4. StandardCost
       5. FinishedGoodsFlag
       6. Color
       7. ListPrice
       8. Size
       9. Weight
       10. Style
       11. ModelName
       12. EnglishDescription
    2. Rename the following columns
       1. EnglishProductName to Product Name
       2. EnglishDescription to Description
    3. Filter only finished products, and remove the FinishedGoodsFlag column
    4. Replace empty (null) values
       1. Replace empty values in Standard Cost with its average value
       2. Replace empty values in List Price with its average value
       3. Replace empty values in Size with 38
       4. Replace empty values in Weight with 56
       5. Replace empty values in Style with U
    5. Do the following value replacement
       1. Replace U with Unisex, W with Women and M with Men in Style column using custom functions
11. Import [Target.txt] and apply transformations to match the below output. Rename the query to Target



1. Import [Target20102011.xlsx] and apply transformations match the below output. Rename this query to Target 2010 – 2011



1. Append Target 2010 – 2011 query to Target query



1. Import [TargetQuantity.csv] and join this query with Target on Calendar Year and Category Name.



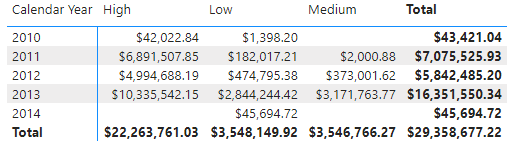
**Challenge #2**

1. Create the following relationships in the data model. Cardinality between “From” and “To” tables is Many-to-one.

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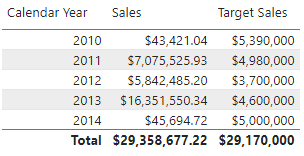
1. In Product table,
   1. Insert “Markup Price” column; List Price – Standard Cost
   2. Insert “Price Category” column; If the list price is less than $1000, Low. If it is less than $2000, then Medium otherwise High
   3. Group the values of weight column to analyze and explore products in visuals.
2. In Customer table
   1. Create a hierarchy – country / state / occupation
3. In Sales table
   1. Create “Total Sales Amount” measure; it should do sum of sales amount in Sales table
4. In “Page 1” page …
   1. Drag the “Total Sales Amount” measure to this page.
   2. Now drag the “Price Category” column and “Calendar Year” column to this visual. Change the visual type to matrix .



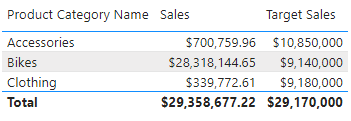
* 1. Insert a table  visual that displays “Total Sales Amount” against each “Calendar Year” and “Month Name”. The month name should be sorted chronologically [Jan … Dec]



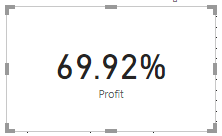
1. Insert a table  visual that displays “Total Sales Amount” and “Total Target Sales” against “Calendar Year”



1. Insert a table  visual that displays “Total Sales Amount” and “Total Target Sales” against “Category Name”

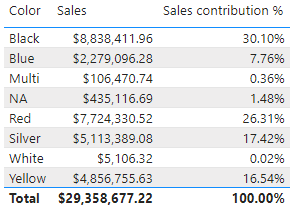


1. Insert a new page.
2. In “Page 2”
   1. Create “Profit” measure; it should subtract sum of sales amount from sum of product standard cost and divide by sum of product standard cost.
   2. Insert a card  visual. Display the profit.

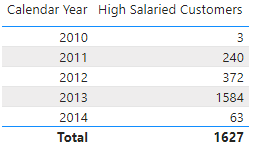


* 1. Modify the “Profit” measure to ignore “NA” product color

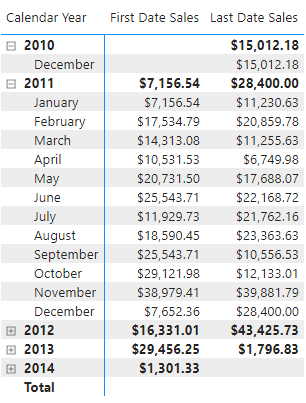
1. Insert a table  visual with sales amount and sales contribution % by product colors



1. Insert a table  visual that displays count of high salaried customers who bought products in each year [High salaried customers: Year Income > $100,000]



1. Insert a “Sales by time” page
2. “Sales by time” page
   1. Insert a matrix  visual that displays sales at the first date and last date of the time period



* 1. Insert a table  visual that displays the 'quarter running total' for sales

