# Southern Beverages Report — Power BI

![Demo GIF](images/demo.gif)

\*\*Project Description.\*\* Southern Beverages , a multi-national Beverage Company with locations in Canada, Mexico and the United States.

## Tools and Technology

- Microsoft Excel - 8 CSV Files :5 Dimension Tables :Customers, Products, Stores, Regions and Calendar. 3 Fact Tables : Transactions 1997 , Transaction 1998 and Returns 1997-1998.

- Power BI Desktop – for building the interactive reports and dashboard.

## Data Connection and Workflow

Connected to the **SouthernBeverages\_Customers** csv file

* Named the table "**Customers**", and make sure that headers have been promoted
* Confirmed that data types are accurate and of the correct
* Added a new column named "*full\_name"*to merge the the "*first\_name"* and "*last\_name"* columns, separated by a space
* Create a new column named "*birth\_year"*to extract the year from the "*birthdate"*column, and format as text
* Create a **conditional column**named "*has\_children"*which equals "**N**" if "*total\_children"* = 0, otherwise "**Y**"

 Connected to the **SouthernBeverages\_Products** csv file

* Name the table "**Products**" and made sure that headers have been promoted
* Confirmed that data types are accurate  and of the correct type.
* Use the statistics tools to return the number of distinct product brands, followed by distinct product names
* Added a calculated column named "*discount\_price*", equal to 90% of the original retail price
* Used the " the **Group By** option to calculate the average retail price by brand, and name the new column "*Avg Retail Price*"
* Deleted the last applied step to return the table to its pre-grouped state
* Replaced "*null*" values with zeros in both the "*recyclable*" and "*low-fat*" columns

 Connected to the **SouthernBeverages\_Stores** csv file

* Renamed the table "**Stores**".
* Confirmed that data types are
* Added a calculated column named "*full\_Addedress*", by merging "*store\_city*", "*store\_state*", and "*store\_country*", separated by a comma and space
* Added a calculated column named "*area\_code*", by extracting the characters before the dash ("-") in the "*store\_phone*" field

Connected to the **SouthernBeverages\_Regions** csv file

* Renamed the table "**Regions**" .

Connected to the **SouthernBeverages\_Calendar** csv file

* Renamed the table "**Calendar**".
* Used the date tools in the query editor to Added the following columns:
  + *Start of Week (starting Sunday*
  + *Name of Day*
  + *Start of Month*
  + *Name of Month*
  + *Quarter of Year*
  + *Year*

Connected to the **SouthernBeverages\_Returns** csv file

* Renamed the table "**Return\_Data**" .

Added a new folder named "**Southern Beverages Transactions**", containing both the **SouthernBeverages\_Transactions\_1997** and **SouthernBeverages\_Transactions\_1998** csv files

* Connected to the folder path.
* Combine the files, then removed the "*Source.Name*" column
* Named the table "**Transaction\_Data** and confirmed that headers have been promoted.

## Key features & skills demonstrated

1- Using DAX Expressions, the following **calculated columns** have been added:

* In the **Calendar** table, added a column named "***Weekend***", Equals "***Y***" for Saturdays or Sundays (otherwise "***N***")
* In the **Calendar** table, added a column named "***End of Month***, Returns the last date of the current month for each row
* In the **Customers** table, added a column named "***Current Age***", Calculates current customer ages using the "*birthdate*" column and the TODAY() function
* In the **Customers** table, added a column named "***Priority***", Equals "***High***" for customers who own homes and have Golden membership cards (otherwise "***Standard***")
* In the **Customers** table, added a column named "***Short\_Country***", Returns the first three characters of the customer country, and converts to all uppercase
* In the **Customers** table, added a column named "***House Number***", Extracts all characters/numbers before the first space in the "*customer\_Addedress*" column
* In the **Products** table, added a column named "***Price Tier***", Equals "***High***" if the retail price is >**$3**, "***Mid***" if the retail price is >**$1**, and "***Low***" otherwise
* In the **Stores** table, added a column named "***Years\_Since\_Remodel***", Calculates the number of years between the current date (TODAY()) and the last remodel date.

2- Created a Measure table name \_Measures to make sure table stays at the top of the list,

Using DAX Expressions, created the following Measures:

* "**Quantity Sold**" and "**Quantity Returned**" to calculate the sum of quantity from each data table
* "**Total Transactions**" and "**Total Returns**" to calculate the count of rows from each data table
* "**Return Rate**" to calculate the ratio of quantity returned to quantity sold.
* "**Weekend Transactions**" to calculate transactions on weekends
* "**% Weekend Transactions**" to calculate weekend transactions as a percentage of total transactions (format as %)
* "**All Transactions**" and "**All Returns**" to calculate grand total transactions and returns (regardless of filter context)
* to calculate "**Total Revenue**" based on transaction quantity and product retail price, and format as $ (***hint:****you'll need an iterator*)
* "**Total Cost**" based on transaction quantity and product cost, and format as
* "**Total Profit**" to calculate total revenue minus total cost, and format as $
* "**Profit Margin**" by dividing total profit by total revenue calculate total revenue (format as %)
* "**Unique Products**" to calculate the number of unique product names in the **Products** table
* "**YTD Revenue**" to calculate year-to-date total revenue.
* "**60-Day Revenue**" to calculate a running revenue total over a 60-day period.
* "**Last Month Transactions**", "**Last Month Revenue**", "**Last Month Profit**", and "**Last Month Returns**"
* "**Revenue Target**" based on a 5% lift over the previous month revenue.

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## Report and Dashboard Preview

## Key Insights

* Tel Tale Brand reached 800 sales sold in Salem, USA in December closing out the year.
* King Product has the highest return rate at a rate of 1.78 %
* ADJ Brand drove the strongest overall profit margin (68.48%) sold in Portland USA

## Notes & privacy

- The pbix contains \*\*no\*\* confidential data; original dataset was anonymized