











HEINEKEN DASHBOARD

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DATA
VISUALIZATION





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INTRODUCTION

Heineken N.V. has requested insights from the years 2015 and 2016.

The data made available for the data analysts is:

- Sales transactions in *.csv format.
- Sales Budget commitments in *.csv format.
- Master Tables such as Product, Customer, KAM and Directors.
- Extra: Market research metrics.





TRANSFORMATIONS

DATA CLEANING

Sellin

Once cleaned, this represents the Sales Fact Table.

Duplicate removals:

- Created a new column which is doing the DM5 HASH function to identify duplicates
- Change field type to text (Date, client code, EANCode, Units, Volume, NetSales, Margin and GrossSale)
- Create a concatenate column:
 [Date]&""&[ClientCod]&""&[EANCod]&""&[Units]&""&[Volume]&""&[NetSales]&""&[Margin]&""&[GrossSale]
- We consider that if these fields are the same in the row, the row is duplicated.
- Delete duplicate rows.

Nielsen Sellin

Once cleaned, this represents the Nielsen Fact Table, corresponding to market sale metrics.

Remove Wrong Product references

EANCode references at Nielsen Sellin containing alphanumerics as they have been identified

Nielsen Product Market

Nielsen Product Master data was merged with the Heineken (Sellin) Product Master Data, to be able to identify at the market sale metrics, which products were from Heineken and which products were from competitors.

CUSTOMIZATIONS

Account Managers Name

The table provides name details to the Key Account Managers according to the Account Manager Codes found in the Salesforces Dimension.

This is also used to calculate cluster measures at the Account Manager detail.

DirectorName & DirectorPhotos

The table provides name and photo details to the Directors Account Managers according to the Director Account Manager Codes found in the Salesforces Dimension.

Customer Chain

The table provides specific names to customer chains, which are referenced from the customer dimension. Examples: Mercadona, Día, Pacha, Razzmatazz.





Customer Group

The table provides specific names to customer groups, which are referenced from the customer dimension. Examples: International Supermarket, Hotel Distributor, Night-Club Distributor.

Postal Code

This table enriches the Location recorded by the Customer Dimension.

It provides Latitude, Longitude and CCAA (Comunidad Autónoma) information as the data being analyzed is mostly from Spain.

Product Brand

The table provides specific brand names to Product items referenced at the Product Dimension. This is where the actual beer brands are recorded. Examples: Heineken, Amstel, Cruzcampo.

Product Capacity

The table provides specific capacity captions to Product items referenced at the Product Dimension. This is where the container size of the beer is described. Examples: 300ml, 250ml, 1 liter.

Product Container Type

The table provides specific container type names to Product items at the Product Dimension. This is where the container size is described. Examples: Can, Bottle.

Nielsen Customer Area

The table provides a location reference to the Nielsen Market research sales metrics. This allows us to take insights from market share per location. Examples: Madrid, Valencia, Barcelona.

Nielsen Product Brand

The table provides specific brand names to Product items referenced at the Nielsen Product Dimension and Market Research Sales Fact. This is where the competitor beer brands are recorded. Examples: Voll-damm, San Miguel, Estrella Galicia.

Measure Sales / Budget

This is an isolated table that contains measure names, this allows us to do filtering and slicing.

Logo

This is an isolated table that contains the Heineken logo image.

DATE DIMENSION TABLE

Using Power Query we have generated a simple date dimension to be able to compare measures across our fact tables: Sales, Budget and NielsenSales.





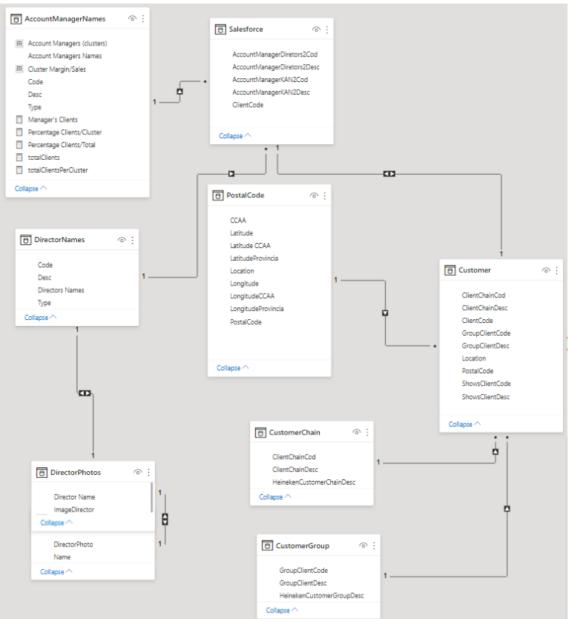
DATA MODEL

We have used a Snowflake approach to decorate or add customizations to the data that was provided.

This allowed us to have a smoother process customizing the data.

By normalizing the customization information we have less redundant data, in the scenario where the Heineken (Sellin, Master and Nielsen) data is provided again to us, it is much easier to fix or add customization records.

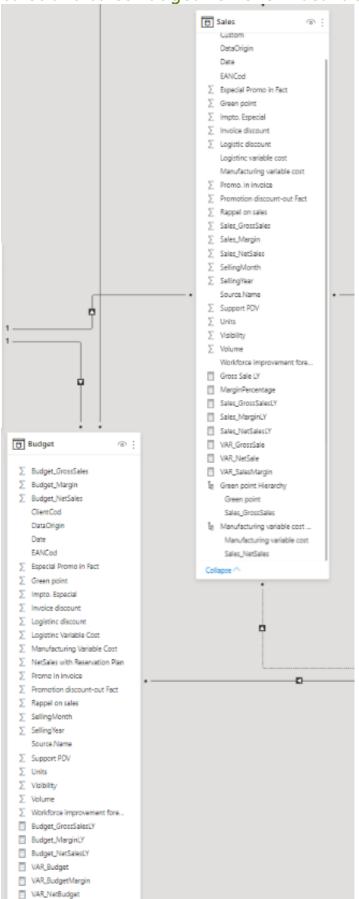
Customer Snowflaked Dimension







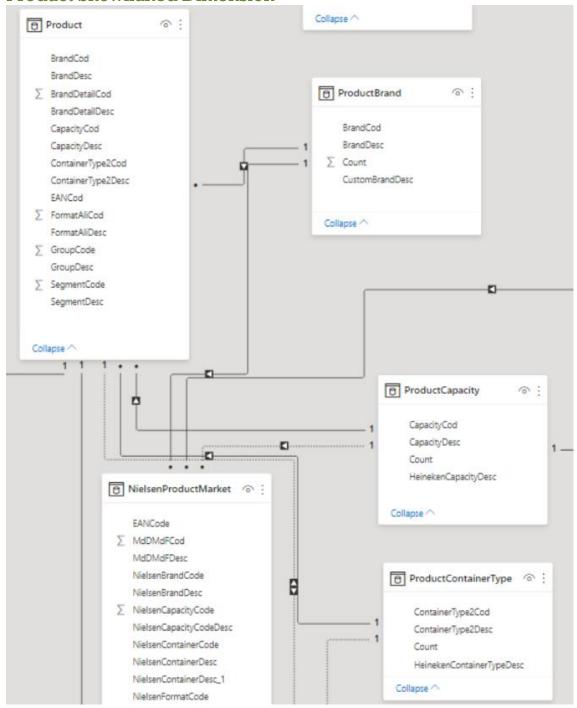
Sales and Sales Budget Heineken Fact Tables







Product Snowflaked Dimension



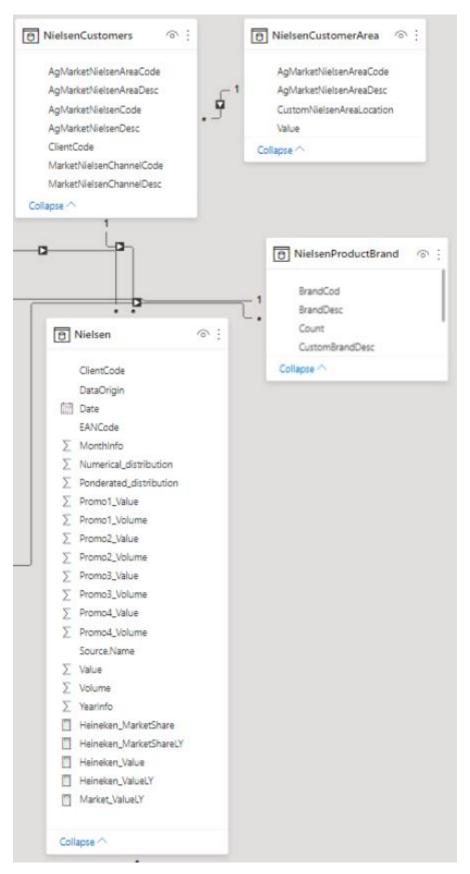




Nielsen

Market Research Sales Fact

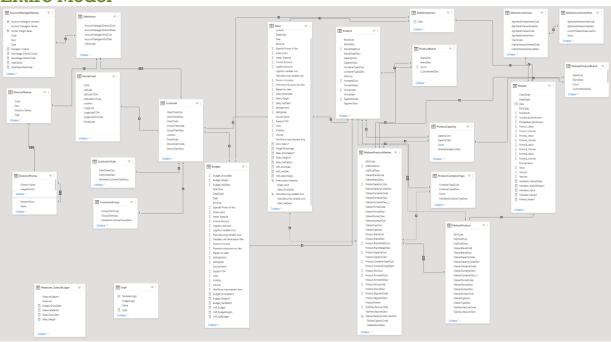
Customer and Product Brand Customizations







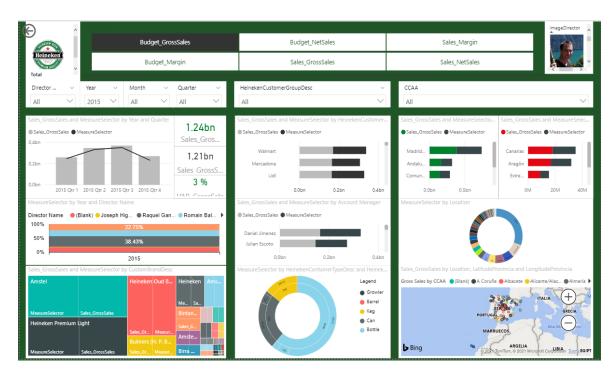
Entire Model







SALES DASHBOARD



PAGE FILTERS

- O Director Name: Filtering the visuals according to the director's name.
- o Date: Year, Month, Quarter: Filtering the visuals according to the date.
- HeinekenCustomerGroupDesc: Filtering the visuals according to the Heineken Customer Group.
- CCAA: Filtering the visuals according to the different Comunidades Autónomas in Spain.
- Image Director: Filtering the visuals according to the pictures of the Heineken directors

MEASURE FILTERS

First we have to create a table containing, in each row, the name of the table with which we want to filter our page.



Once this is done, we need to create a measure selector. This is the formula we will enter in DAX:





What we do with this is to select the values of the tables we want to get the values from, and insert them into our MeasureSelector measurement.

After that, we just need to insert our MeasureSelector measurement in the Slicer visualization tool and in the formatting select: General - Orientation - Horizontal.

VISUALS

 Line and stacked column chart: To represent the evolution of the sum of GrossSales over time. We will also add in this chart the measure "MeasureSelector" to be able to compare the sum of GrossSales with the filters applied in the sheet.

o Cards:

- o In one of the cards we will show the total of GrossSales
- In the second card we will create a new measure to calculate the value of the first card with its value one year ago.

```
Sales_GrossSalesLY =
CALCULATE(
          SUM(Sales[Sales_GrossSales]),
          DATEADD(DateDimension[Date].[Date],-12,MONTH))
```

 In the third card we will create a new measure to see the variation between the grossSales value in the selected year and the previous year.

```
VAR_GrossSale =
          DIVIDE(
          SUM(Sales[Sales_GrossSales])-Sales[Sales_GrossSalesLY],
          Sales[Sales_GrossSalesLY])
```

- Mekko Chart 3.2.1: Represent the different "measure selector" according to the percentage corresponding to each director.
- Treemap: Represent the gross sales and the different "measure selectors" according to the participation of each type of beer belonging to Heineken.
- Stacked bar chart: Represent the gross sales and the different "measure selectors" depending on the representation of each customer
- Stacked bar chart: Represent the gross sales and the different "measure selectors" according to the representation of each Account Manager.
- Sunburst: Represent the gross sales and the different "measure selectors" according to the container type and the capacity of the containers





- Stacked bar chart: Represent the TOP 5 gross sales and the different
 "measure selectors" according to the autonomous community.
- Stacked bar chart: Represent the BOTTOM 5 gross sales and the different
 "measure selectors" according to the autonomous community.
- o Sunburst: Represent the "measure selector" by Provincias
- Map: Represent the sum of Gross Sales according to the Comunidades Autónomas
- o Logo with URL:
 - We need to import the folder with the logo picture we are going to use.
 - In Power Query Editor we need to add a field called Binary Code to decode the content found in the Content field:

```
Binary.ToText([Content],BinaryEncoding.Base64)
```

 We need to create a new field to convert the binary code we just created in the previous step to URL. For this we need to write the following function

```
ImageDirector = "data:image/png;base64, " & [BinaryCode].
```

- Next we need to replace the value in the name field with the name we have in our database in Power BI.
- We need to create a new column to insert the URL:

```
HeinekenLogo= IF (Logo[ImagenLogo] = "Heineken";
https://www.heineken.com/es/es/agegateway?returnurl=%2f
```

 Finally we need to change the Data category of the ImageDirector field to Image URL type, select the field and drag it to the Slicer visualization tool in our dashboard.

o Image:

- We need to import the folder with the photos we are going to use.
- In Power Query Editor we need to add a field called Binary Code to decode the content found in the Content field:

```
Binary.ToText([Content],BinaryEncoding.Base64)
```

 We need to create a new field to convert the binary code we just created in the previous step to URL. For this we need to write the following function

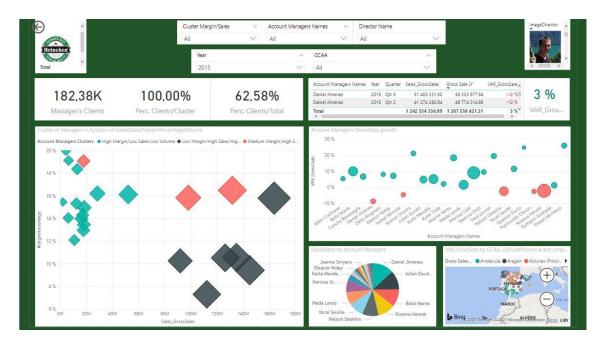
```
ImageDirector = "data:image/jpg;base64, " & [BinaryCode].
```

- Next we need to replace the values in the name field with the names of the directors we have in our database in Power BI.
- Finally we need to change the Data category of the ImageDirector field to Image URL type, select the field and drag it to the Slicer visualization tool in our dashboard.





CLUSTER/SALES GROWTH DASHBOARD



PAGE FILTERS

- o Director Name: Filtering the visuals according to the director's name
- Account Managers Name : Filtering the visuals according to the account manager's name
- o Date: Year: Filtering the visuals according to the date
- Cluster Margin/Sales: Filtering the visuals according to the Cluster generated from Percentage of Margin, Gross Sales and Volume for each account manager.
- CCAA: Filtering the visuals according to the different Comunidades Autónomas in Spain
- Image Director: Filtering the visuals according to the pictures of the Heineken directors

VISUALS

- o 4 Cards implemented:
 - The total of the Manager's customers which change dynamically by using filters.

```
Manager's Clients = CALCULATE( COUNT(Sales[ClientCod]))
```

 The Percentage of Clients per cluster which change dynamically by using filters. The purpose is to know the proportions of clients for each Account Managers in his category represented by cluster.

Percentage Clients/Cluster =

AccountManagerNames[Manager's Clients]/





[totalClientsPerCluster]

 The Percentage of Clients on all Heineken markets which change dynamically by using filters. The purpose is to know the proportions of clients dealt following the different filters applied.

```
Percentage Clients/Total =
AccountManagerNames[Manager's Clients]/
AccountManagerNames[totalClients]
```

 VAR_GrossSales is the variation of GrossSales between 2014 and 2015 to have a performance evolution in the different groups or for each individuality.

```
VAR_GrossSale =
          DIVIDE(
          SUM(Sales[Sales_GrossSales])-Sales[Sales_GrossSalesLY],
          Sales[Sales_GrossSalesLY])
```

- A table affected by filters which show the details of GrossSales, GrossSales LastYear and the growth of thoses sales. A red color is applied to the negative growths.
- A Cluster graph with the GrossSales in X axis, percentageMargin in Y Axis
 and the volume of sales for the size of indicators. The Account Managers
 names were applied in Details for generating our categories of Clusters. The
 number of categories has been defined to three following the GrossSales,
 the PercentageMargin and Volume values.

- Another Cluster graph is used showing the GrossSales Growth for our Account Manager. With filters we can be more defined in the selection but all the negative growths will be shown with red indicators.
- A Pie Chart showing the GrossSales for each Account Manager to not be only based on Growth indicators in our decisions.
- A TreeMap using CCAA and latitude and longitude to show the growth evolution for each location in Spain.

DRILL

- For calculating the Growth of Sales between 2014 and 2015 we have decided to generate the drill page "Drill Sales", which is constituted of three tables.
- GrossSales: The values used are Date(Year+Month), Sales_GrossSales,
 Sales GrossSalesLY and VAR GrossSales

```
VAR_GrossSale =
```



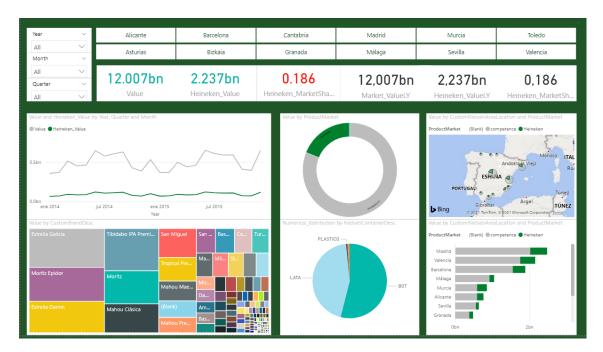








NIELSEN DASHBOARD



PAGE FILTERS

- o Date: Year, Month, Quarter: Filtering the visuals according to the date
- Customer Area Location: Filtering the visuals according to the twelve city used by our customer in Nielsen Data

VISUALS

```
Cards
```





```
CALCULATE (
       [Heineken_MarketShare],
       DATEADD (DateDimension[Date].[Date],-12,MONTH))
Market_ValueLY =
CALCULATE (
       SUM(Nielsen[Value]),
       DATEADD (DateDimension[Date].[Date],-12,MONTH))
Heineken_ValueLY =
CALCULATE (
       [Heineken_Value],
      DATEADD (DateDimension[Date].[Date],-12,MONTH))
Heineken_MarketShareLY =
CALCULATE (
       [Heineken_MarketShare],
       DATEADD (DateDimension[Date].[Date],-12,MONTH))
Courbe
Heineken_Value =
       CALCULATE (
              SUM(Nielsen[Value]),
              NielsenProductMarket[ProductMarket] = "Heineken")
```





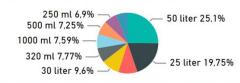
TOOLTIP COMPONENTS

CONTAINER TYPE

22 %

MarginPercentage

MarginPercentage by HeinekenCapacityDesc



CUSTOM BRAND

22 %

MarginPercentage

LOCATION

% MARGIN PROVINCE

22 %

MarginPercentage





DRILL DOWN COMPONENTS

DRILL SALES



This Drill shows in detail the gross sale, gross sale last year and the variation of the gross sale by years and months;

the net sale, net sale last year and the variation of net sale by years and months;

the sales margin, sales margin last year and the variation of the sales margin by years and months; the sales margin, sales margin last year and the variation of the sales margin by years and months.

DRILL BUDGET







This Drill shows in detail:

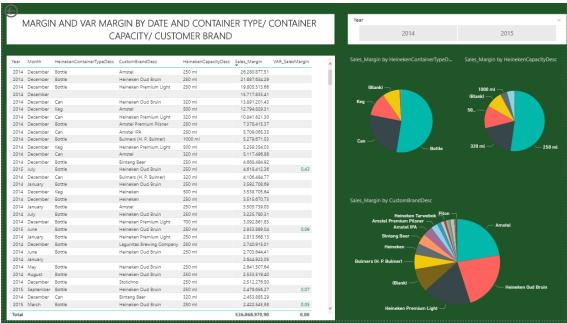
The Budget gross sale, Budget gross sale last year and the variation of the Budget gross sale by years and months;

The Budget net sale, Budget net sale last year and the variation of Budget net sale by years and months;

The Budget sales margin, Budget sales margin last year and the variation of the Budget sales margin by years and months;

The Budget sales margin, Budget sales margin last year and the variation of the Budget sales margin by years and months.

DRILL PRODUCT



This Drill shows in detail

The margin and variation of the margin of container type, container capacity and customer brand by date

The sales margin by Container type

The sales margin by container capacity

The sales margin by customer brand





INSIGHTS/RECOMMENDATIONS

INSIGHTS	RECOMMENDATIONS
Budget Goal	More Aggressive Budget Goal
Not Increasing Market Share	Promote Best Selling Products
Main competitors losing Market Share	Target losing markets by offering Premium and Craft Beer as it represents a growing market
Small competitors penetrating the market with Premium and Craft Beers	
Poor Market share in North and South of Spain	Focused Marketing Campaigns in North and South of Spain