Advanced Performance Measurement Project Work

Campari Group KPIs Analysis

GROUP 12

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1. Introduction

The purpose of this analysis is to give heads of Campari departments valuable information to support their business goals and make informed decisions. These insights are conveyed through Power BI dashboards.

Leveraging data provided by Campari pertaining to retailer sales within the beverages market spanning the years 2020 to 2023 were constructed using three dashboards. The analytical emphasis is specifically directed towards the aperitifs market, dictated by the extant dataset.

The first dashboard provides a comprehensive view of market sales, emphasizing unique characteristics and current trends for a nuanced understanding. The second focuses on marketing, exploring the impact of promotions and seasonality challenges on Campari's sales. The third dashboard delves into logistical details, highlighting product accessibility and availability in retail spaces, offering insights into operational efficiency and distribution effectiveness.

2. Business insights

The main business goals when analyzing a dashboard for Campari top managers are guiding strategic decisions for growth and increasing total sales every year.

Top management insights:

During all periods, Aperitivi consistently dominated sales, comprising around 60%. Sales surged in 2021, dipped in 2022, but rebounded in 2023. Aperitivi held a strong market position, while opportunities exist to strengthen Campari's presence in the Amari market. Therefore recommended to enhance Amari Position, implement targeted initiatives to fortify Campari's presence in the Amari market.

We discovered that August 2023 emerged as the most profitable month, so this month is the key time of year for the company. December consistently yielded high revenues, followed by a January decline, so recommended to optimize inventory and promotions for peak seasons, managing January's sales decline.
Moreover, Aperol led sales (38.44% of total), followed by Crodino and Campari Soda. Averna topped the Amari category, so the goal is to strengthen the position of other Campari brands in the market.

Marketing insights:

The main key insights for marketing managers is that Aperetivi is the most successful category for Campari with higher revenues and stronger market presence than Amari so they should focus on their core strengths in this cateogry and also leveraging on growing its presence in the Amari market , developing premium products and brand reputation. Focusing on Regions: Lombardia, Veneto and Piemonte are the most promising markets so campari should focus its marketing effort on these regions to capitalize on their strong sales performances,higher average prices and receptiveness to promotional campaigns. Amari products are highly priced which indiciate higher perceived value or more premium positioning.

Campari should capitalize on consumer preferences for smaller, more portable bottle sizes by focusing its marketing and pricing efforts on the 9.8 CL and 10CL formats. Campari has maintained a relatively consistent level of promotion pressure over the four years so they are able to balance promotional activities with profitability. It has been most effective in 2021 which was around 16%. This was reinforced by the highest promo effectiveness index in the same year as the result of the highest revenues by the most of regions. This indicated the highest ROI that they achieved through selected years. By integrating these insights into its marketing strategy, Campari will be able to develop a comprehensive approach that addresses both its strengths and opportunities, resulting in improved market performance, brand reputation, and customer satisfaction.

Logistic insights:

Campari Heads can enhance operational efficiency and reduce costs by implementing strategic initiatives across logistics, packaging, and inventory management. Optimize logistics by prioritizing routes for efficient service to Supermarkets and Hypermarkets, consolidating deliveries to enhance product saturation per truckload and minimizing routes for dispersed LSPs. Implement dynamic pricing models for transportation, encouraging bulk Hypermarket orders to maximize truck saturation, and adjust pricing for LSPs to address logistical challenges and maintain profitability. Collaborate on the bottle packaging design, ensuring a balance between protection and space efficiency.

Strive to maximize the number of bottles per shipment, aiming to minimize transportation costs. Implement real-time inventory tracking at supermarkets for proactive monitoring, intervening promptly to replenish inventory and ensure consistent product availability. Additionally, implement dynamic inventory allocation strategies that prioritize high-demand products and faster turnover based on factors such as popularity and seasonality. Reduce stock outs for critical items to enhance customer satisfaction. Integrating these insights improves Campari Heads' supply chain, cuts transportation costs, and enhances overall customer satisfaction through strategic logistics, packaging optimization, and advanced inventory management.

3. Technical Report

The analysis of the Campari group was based on data extracted from 2 sides of data: data which were bought by a Data Provider and data which were collected by Campari teams.

Data in “Sell Out - Polimi 2023” (SO), “Campari Group portfolio” (CP) and “Product Dimension” (PD) files didn’t need any transformation, therefore we focused on improving the quality of “tbl_ps_combine_org” (CO), “tbl_ps_productmonitoring_pivot” (PM) and “tbl_ps_shelfinfo” (SH).

3. 1 Data Cleaning

In the initial phase, data cleansing procedures were executed employing the R software.
Initially, we converted Excel files to ".csv" format for improved manageability and uploaded them to R.

3.1.1 PM data

Conducting an initial analysis, we systematically assessed each column for the presence of null values. Subsequently, we eliminated rows with null values specifically in the "StoreID_PSIVisitID" column, recognizing its pivotal role as a key, crucial for establishing relationships with other tables.

Addressing inconsistencies, we rectified instances where rows simultaneously indicated products as "not in assortimento," "available," but with facings equal to zero. Additionally, we introduced greater flexibility by creating two new columns, namely "StoreID" and "VisitID," facilitating more refined data filtration in PowerBI. Furthermore, we excluded rows with both "PrezzoNoPromo" and "PrezzoPromo" equating to zero, along with eliminating entries containing products not in assortimento, unavailable items, and rows with zero facings.

3.1.2 CO Data

In our R script, we performed diverse data cleaning and transformations on the 'tbl_ps_combine_org.CSV' dataset. We identified and addressed null values, specifically handling 'MQVend' by substituting null entries with non-null values linked to 'StoreID'.

The 'IndexVsHS' column was converted to numeric format and rescaled to ensure a cumulative sum of 100. We rectified records where 'City' lacked 'State' values and updated 'State' based on matching 'City'. The 'VisitDate' column was standardized to a Date format for consistency. The processed dataset was saved as 'SI_processed.csv'.

3.1.3 SH Data

Our initial steps included identifying and counting null values across all columns to assess data quality. We specifically scrutinized rows with null values in the 'StoreID_PSIVisitID' column, examining their content and structure.

As part of data trimming, we removed the last 10 rows from the dataset, assuming them to be empty. Subsequently, we focused on checking for null values in columns related to aperitifs and after meals ('Number.Of.After.Meal.Shelf' and 'Number.Of.Aperitif.Shelf'). We created separate datasets excluding rows with null values in these columns.

To consolidate relevant information, we performed a data join operation, connecting datasets based on the common 'StoreID_PSIVisitID'. We then addressed null values in specific columns ('SurveyID.x', 'Survey.Name.x', 'Shelf.Size.x') by imputing values from corresponding columns in the joined dataset.

Further, we identified rows with remaining null values in specific columns, facilitating a targeted examination of data quality. Redundant columns resulting from the join operation were subsequently removed, streamlining the dataset. Our final checks ensured that the dataset was free from null values in critical columns. Finally, the processed data was exported to a new CSS file', ready for further analysis.

3.1.4 Setting up the model into PowerBI

We decided to organize data having at the core of the model a fact table (FT) including all the numeric columns inside the SO file, hence we created the subsequent dimension tables (DT) with the remaining columns creating ad-hoc indices and instauring the needed relationships.

The result of this process has been the creation of the followings tables:

1. FactTable
2. DimSubChannel
3. DimManufacturer
4. DimProduct

We also loaded in the model tables related to SO, SH and PM data.
In addition we created few support tables:

1. Regions
2. Supermarket Type
3. Date table

5 and 6 serve the purpose of separating data inside the “Sub Channel” column in SO, among information related to the supermarket type and the one belonging to region type.

3.1.4.1 DateTable

So data contained dates having weeks as higher level of detail, in order to be able to work with time intelligence functions we created a calendar table having days as the highest level of detail.
We did it by assigning to each date the first day of the associated week during the reference year.

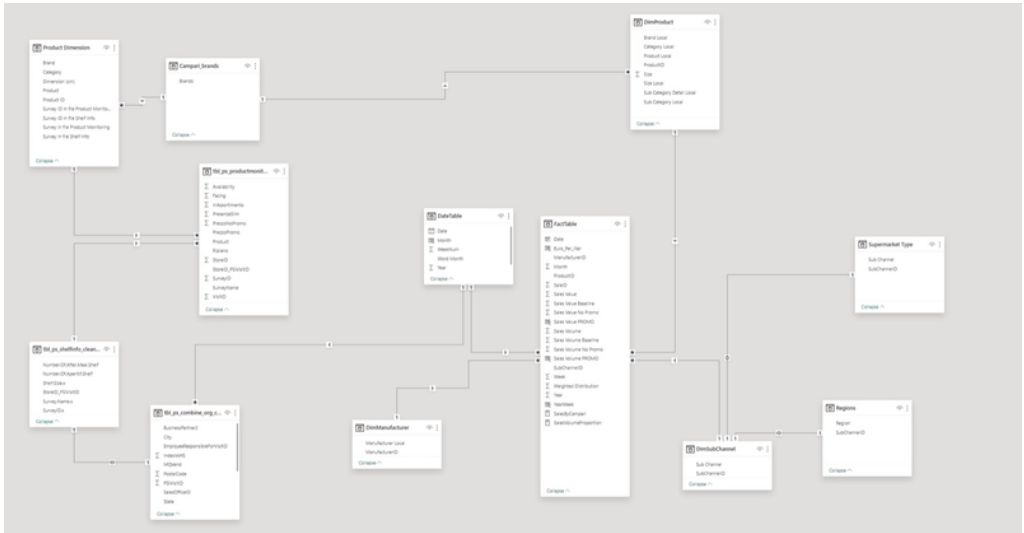

Figure 1 – Updated data model for Power BI

3.2 Analysis

3.2.1 Top Management Insights

The initial step of the analysis involved conducting an overview of the aperitif markets. This aimed to explore the overall market performance, trends, and establish the strategic decisions.

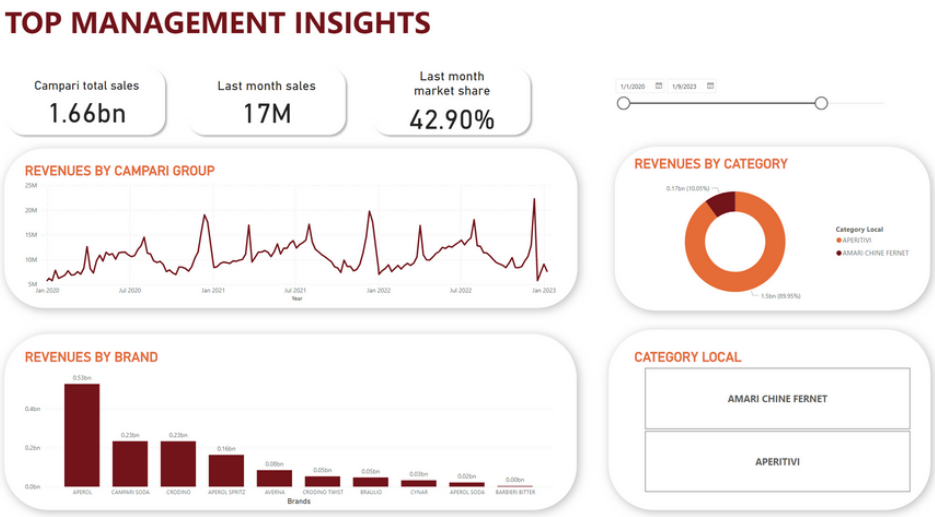

Figure 2 – Top management Insights

Figure 2 shows a static view of the market overview dashboard in Power BI. This dashboard was developed for the top management of the company to have an insight into the opportunities and threats of each market.
We decided to choose the following KPIs for 2020 to 2023 years. Every KPI is accompanied by visual representations such as tables, graphs, and diagrams, ensuring effective communication of information to decision-makers.

Campari Total Sales

Defined as:

$$Sales = \sum Campari\ Sales\ Value$$

During all years Aperetivi market was higher compared with Amari market (for example, for 2022 Aperetivi market acounted for 59.74% of Sum of Sales Value, which is about 20% higher than for Amari). Moreover, we can see a strong increase of Campari Total Sales value in 2021 (+80 mln), however, in 2022 there was a slight decline in sales. For incomplete 2023, Campari Group shows quite good results of approximately 543 millions.

Sales from the previous month offer a snapshot of Campari sales, specifically for the most recent month represented in the dataset. Additionally, the analysis of last month's sales allows for the observation of Campari's development over time:

$$Last\ Month\ Sales = \frac{\sum Campari\ Sales\ Value}{12}$$

We found out that the one most profitable month among the dataset was August 2023 (about 72 million euro). The graphical representation reveals a consistent trend where December traditionally showcases the highest revenue due to the forthcoming holidays in Italy. Correspondingly, a noticeable downturn in sales is evident in January following the peak in December.

Sales by Brand

Defined as:

$$Sales\ by\ Brand = \sum Sales\ Value\ by\ Brand$$

We analyzed the best sellers of Campari products. During all span the product with the highest revenue was Aperol brand. This product accounted for 38.44% of Sum of Sales Value. Crodino and Campari Soda have approximately the same value during the 3-year period, and they take second place, but that's roughly 57% less than Aperol. Regarding the Amari category, the best selling product was Averna (around 103 million). But still it comes after Aperol, Crodino, Campari Soda, and Aperol Spritz. (the leaders throughout the entire period).

Market Share

Defined as:

$$Market\ Share = \frac{\sum Campari\ Sales\ Value}{Total\ Sales\ Value}$$

The subsequent crucial Key Performance Indicator (KPI) is the Market Share, indicating Campari's proportion of sales with 2 main categories: Amari Chine Fernet and Aperetivi.

This measurement is designed to assist the CEO in understanding Campari's position and future possibilities in these markets, providing valuable insights for strategic growth initiatives. Analyzing this part we can mention that the Aperetivi occupied a leading position in the market during all years. For the Amari market, the target is to strengthen its position. Moreover, monitoring the growth in market share is essential for observing Campari's progression in each market over time.

3.2.2 Marketing Insights

The KPIs chosen for evaluating Campari's sales performance in Aperetivi and Amari at retailers from 2020 to 2023 are complemented with visual representations like tables, graphs, and diagrams. These visuals are designed to offer clear and concise information to decision-makers for effective analysis and understanding.

Figure 3 – Top management Insights

Figure 3 exhibits the static view of Power BI dashboard crafted to delve deeper into the Aperetivi and Amari markets. These detailed insights are curated specifically for the Chief Marketing Officer (CMO) to thoroughly analyze the positioning of each Campari brand. The primary focus of the dashboard revolves around essential Key Performance Indicators (KPIs), including revenue by region, the average price per liter and promo sales.

Revenue by Region

Defined as:

$$Revenue\ by\ Region = \sum sales\ value\ per\ region$$

This gives insights on the regional consumer preferences and behaviors. Even though Amari is noticed to be having a higher average pricing, here it is observed to have less revenues in regions than Apertivi. This indicates that Aperol is seen to have a market perception with its pricing strategies thus resulting in higher revenues. Lombardia, Veneto and Piemonte are the most promising markets.especially Lombardia growth rate for its revenue which went around 24% by 2021.

But it is worth noticing that both the brands have an increase in revenues in 2021 and then with a gradual decrease by 2023. resulting in change of consumer preference and product pricing even though the promo pressure has remained the same in 2023.

Average price per liter

Defined as:

$$Average\ price\ per\ liter = \frac{\sum sales\ value\ by\ brand}{\sum sales\ volume\ by\ brand}$$

FFrom this, the CMO can assess which variants command higher prices and whether consumers are willing to pay more for specific types of drinks. It also helps in giving insights into market choices for varying product types. Here, it is worth analyzing the different pricing for Apertivi and Amari. Amari's pricing is almost 50% higher than Apertivi through 2020 to 2023 which could indicate that these are the biggest brands competing in the same market.

In the Apertivi category, it can be noticed that the Aperol commands for the highest pricing which are around 14.50€, positioning it as a potential premium choice. Indicating that consumers perceive the drink possibly associating it with higher quality, or exclusivity, allowing for a more premium pricing strategy. Whereas in Amari, it's Braulio and Averna being the highest priced that are around 22€, possibly indicating the same.

Favorite bottle format

Defined as:

$$\#Bottle\ sold = \frac{\sum sales\ volume}{\sum product\ size}$$

In this KPI, the CMO can analyze the most sold size format of each brand. Analyzing this can help us understand pricing strategies, product placement, and promotional offers, ensuring effective utilization of consumer preferences to enhance overall marketing effectiveness. It is to be observed that in Apertivi the favorite format is 9.8CL and the least favorite is 70CL over the years, suggesting the constant market preference. The same thing is observed in the Amari category as well, 75CL being the favorite and 300CL being the least favorite over the years. This market preference suggests us about improvising the marketing and pricing strategy for the bottle sizes, allowing for tailored messaging that resonates with consumer needs and preferences.

Promo pressure

Defined as:

$$Promo\ pressure = \frac{\sum sales\ volume\ promo}{\sum sales\ volume}$$

Through the four years, overall promotional pressure has been relatively consistent, with a slight increase in 2023 (31%). Due to higher average price in both markets, Campari had to offer more attractive discounts or promotions to entice customers to purchase higher priced products. Additionally, high Revenue by many regions in 2021 and 2023 made it more comfortable to absorb the cost of promotions without significantly affecting overall profitability for both two years especially in 2021, which indicates successful promotional efforts in the highest Regions revenue among the four years.

Promo Effectiveness Index

Defined as:

$$Promo\ Effectiveness\ Index = \frac{\sum sales\ volume}{\sum sales\ volume\ base\ line}$$

That KPI measures the effectiveness of promotional campaigns in driving sales. Through the four years of analysis, the highest PEI (16%) in 2021 aligned with the highest revenues by most of the regions so higher ROI came from its promotions in this year, with each promoting more sales than in other years.

3.2.3 Logistics Insights

Visual representations, such as tables, graphs, and diagrams, have been employed to complement the selected Key Performance Indicators (KPIs) in maintaining steady product availability and optimizing transportation efficiency for Campari's aperitifs and amare chine fernet between 2020 and 2023. These visuals aim to provide decision-makers with clear and concise information for better analysis and comprehension.

Figure 4 – Top management Insights

Figure 4 exhibits the static view of Power BI dashboard crafted to delve deeper into the aperitifs and amare chine fernet logistics. These detailed insights are curated specifically for the Head of Logistics Dept. to thoroughly analyze each Campari brand.

Share of total sales by point of sale (STS)

Defined as:

$$STS_i = \frac{Sales\ made\ by\ store\ category\ "i"}{Total\ sales\ made\ by\ Campari} * 100$$

This KPI helps understand the degree by which stores to be reached are dispersed in the territory.
LSP will be the most expensive to serve since we would need many different trucks to deliver the products resulting in a low saturation of them. On the other side of the spectrum we have Hypermarkets, managing high volumes of products, we expect to have bulk orders that can saturate trucks and lower costs. In the middle of the scale we have supermarkets. Higher values for STS-LSP will result in higher total transportation costs, while higher values of STS-Hypermarkets will result in lower ones.

Number of bottles shipped by size (NBSS)

Defined as:

$$NBSS = \#\ Bottles_i$$

With “i” stating the bottle size category (10CL,70CL ecc.).
This KPI helps understanding the total volume bottles will occupy, this allows to better saturate trucks and reduce costs. Knowing the most popular sizes shipped are 10CL and 9,8CL will make sense to optimize packaging, spaces and aggregating ship shipments around these dimensions.By efficiently using available space, you can minimize wasted volume and maximise the number of bottles transported in each shipment. In terms of warehouse efficiency, knowing the precise dimensions allows for optimal shelf space utilization and streamlined picking and packing processes, thereby reducing labor costs.

Number of bottles shipped to each region (NBS)

Defined as:

$$NBS = \#Bottles_i$$

With “i” stating the region category where bottles are shipped.
This KPI helps understanding where the majority of bottles are sent, this helps merging orders from multiple customers in the same region and improves the trucks’ saturation, lowering the total transportation costs.

Number of bottles in stock by each customer (BSC)

Defined as:

$$BSC = \#\ Bottles_i$$

With “i” stating the customer.
This KPI allows one to better understand how bottles are distributed among different customers within a region. Once again, knowing the number of bottles each customer has helps in planning shipments. Having customers with high BSC values close together allows them to aggregate products in one shipment instead of multiple ones.

Number of bottles out of stock by each customer (BOSC)

Defined as:

$$BOSC = \#\ Out\ of\ stock\ bottles_i$$

Monitoring the out-of-stock KPI for each supermarket is vital for maintaining consistent product availability. This information helps optimize supply chain operations by informing demand forecasting, prioritizing replenishment, and ensuring efficient inventory management. Collaborating with suppliers based on this information allows for timely restocking.

4. Conclusion

In conclusion, the in-depth Power BI KPI analysis conducted for Campari unveils pivotal insights crucial for informed and strategic decision-making. The consistent dominance of Aperitivi showcases a robust market foothold for Campari. Despite this commendable success, the analysis highlights compelling opportunities to fortify Campari's presence in the Amari market, signaling the need for targeted initiatives in this segment.

The analysis distinctly underscores the importance of optimizing inventory and promotional strategies during peak seasons, with a spotlight on leveraging the profitability witnessed in August 2023. Furthermore, the sustained high revenues observed in December signify the need for focused strategies to manage the subsequent decline in January sales effectively.

Additionally, the recommendations stemming from strategic initiatives in logistics, packaging, and inventory management underscore the potential for heightened operational efficiency and cost reduction. By optimizing routes, designing packaging tailored for smaller bottle sizes, and implementing real-time inventory tracking at supermarkets, Campari aims to streamline processes, ensuring unwavering product availability and, ultimately, elevating customer satisfaction.

Fundamentally, the extensive findings extracted from the Power BI analysis act as a fundamental element in shaping Campari's strategic roadmap. These results provide practical measures to capitalize on strengths, seize growth opportunities, and adjust operational strategies.

5. Appendix – KPI Protocols

Name	**Total Sales**
Primary User	Top Management
Purpose	Measure Campari's total sales value in specific period in Aperitivi and Amari markets
Target	Increase sales with respect to previous year
Analytical Strategy	$Total\ Sales = \sum Campari\ Sales\ Value$
Frequency	Every quarter
Who measures?	Data Analyst in the Sales Department
Sources of data	Sell Out data
Types of data	Numbers in euros

Name	**Sales by Brand**
Primary User	Top Management
Purpose	To track Campari's brands' position in the market
Target	Improve the position of each brand in the market
Analytical Strategy	$Sales\ by\ Brand = \sum Sales\ Value\ by\ Brand$
Frequency	Every year
Who measures?	Data Analyst in the Sales Department
Sources of data	Sell Out data
Types of data	Numbers in euros

Name	**Market Share**
Primary User	Top Management
Purpose	To comprehend Campari's current standing and prospects in the markets, and to formulate growth strategies
Target	Improve the Camapri's position every year
Analytical Strategy	$Market\ Share = \frac{\sum Campari\ Sales\ Value}{Total\ Sales\ Value}$
Frequency	Every month
Who measures?	Data Analyst in the Sales Department
Sources of data	Sell Out data
Types of data	Float Number - Percentage

Name	**Revenue by Region**
Primary User	CMO
Purpose	To analyze and understand the geographical distribution of revenue generated by the company across different regions
Target	Achieve balanced regional contribution and growth
Analytical Strategy	$$Revenue\ by\ Region = \sum sales\ value\ per\ region$$
Frequency	Every three months
Who measures?	Data Analyst in the sales department
Sources of data	Sell out data
Types of data	Numbers in euros

Name	**Average price per liter**
Primary User	CMO
Purpose	To track how much money the company gets for every liter of Aperitif and Amari brands sold on average
Target	Stable indicator over time
Analytical Strategy	$$Average\ price\ per\ liter = \frac{\sum sales\ value\ by\ brand}{\sum sales\ volume\ by\ brand}$$
Frequency	Once per year
Who measures?	Data Analyst in the sales department
Sources of data	Sell out data
Types of data	Numbers in euros

Name	**Promo Effectiveness index**
Primary User	CMO
Purpose	To measure and evaluate the effectiveness of promotional activities undertaken by the company
Target	Increase promo effectiveness index by 'X'% within the next period
Analytical Strategy	$$promo\ Effectiveness\ index = \frac{\sum sales\ volume}{\sum sales\ volume\ base\ line}$$
Frequency	Every quarter of year
Who measures?	Data Analyst in the sales department
Sources of data	Sell out data
Types of data	Numbers in euros

Name	**Promo pressure**
Primary User	CMO
Purpose	Measure the effectiveness of promotional campaigns in driving sales
Target	Maintain optimal promo pressure alignment
Analytical Strategy	$$Promo\ pressure = \frac{\sum sales\ volume\ promo}{\sum sales\ volume}$$
Frequency	Every quarter of year
Who measures?	Data Analyst in the sales department
Sources of data	Sell out data
Types of data	Numbers in euros

Name	**Favorite bottle format**
Primary User	CMO
Purpose	To identify and understand the most preferred or popular bottle sizes among
Target	Optimize production and marketing strategies based on bottle size preferences
Analytical Strategy	$$\#Bottle\ sold = \frac{\sum sales\ volume}{\sum product\ size}$$
Frequency	Once per year
Who measures?	Data Analyst in the sales department
Sources of data	Sell out data
Types of data	Integer

Name	**Share of total sales by point of sale**
Primary User	Head of Logistics Dept.
Purpose	To understand the degree by which stores to be reached are dispersed in the territory
Target	10% LSP, 10% Hypermarkets, 80% Supermarkets
Analytical Strategy	$$STS_i = \frac{Sales\ made\ by\ store\ category\ "i"}{Total\ sales\ made\ by\ Campari} * 100$$
Frequency	Monthly
Who measures?	Data Analyst in the logistic department
Sources of data	Sell Out data
Types of data	Float number - Percentage

Name	**Number of bottles in stock by each customer**
Primary User	Head of Logistics Dept.
Purpose	To understand the total volume bottles will occupy to better saturate trucks and reduce costs.
Target	Product mix minimizing logistics costs under the constraint of complying strategic objectives
Analytical Strategy	$NBSS = \#Bottles_i$
Frequency	Every three months
Who measures?	Data Analyst in the logistic department
Sources of data	Sell Out data
Types of data	Integer

Name	**Number of bottles out of stock by each customer**
Primary User	Head of Logistics Dept
Purpose	Identify key bottle destinations to consolidate orders within regions, maximizing truck capacity and reducing transportation costs
Target	Regions portfolio minimizing logistics costs under the constraint of complying strategic objectives
Analytical Strategy	$NBS = \#Bottles_i$
Frequency	Every three months
Who measures?	Data Analyst in the logistic department
Sources of data	Sell Out data
Types of data	Integer

Name	**Number of bottles shipped to each region**
Primary User	Head of Logistics Dept
Purpose	To gain insights into the distribution of bottles among various customers within region, aiding in the optimization of regional supply chain strategies
Target	Customer portfolio minimizing logistics costs under the constraint of complying strategic objectives
Analytical Strategy	$BSC = \#Bottles_i$
Frequency	Every three months
Who measures?	Data Analyst in the logistic department
Sources of data	Sell Out data
Types of data	Integer

Name	**Number of bottles shipped by size**
Primary User	Head of Logistics Dept
Purpose	Improve supply chain sufficiency through informed demand forecasting, prioritized restocking and optimized inventory management
Target	Reduction of 10% year-by-year
Analytical Strategy	$BOSC = \#\,Out\ of\ stock\ bottles_i$
Frequency	Monthly
Who measures?	Data Analyst in the logistic department
Sources of data	Sell Out data
Types of data	Integer