MARKETING ANALYTICS

Ifood is an Ecommerce company in Brazil. They wants to produce the highest profit for the next direct marketing campaign, scheduled for the next month. ​ ​

For this reason, the CMO presented a small data of their previous marketing to analyze trends and insights in the data of these customers and to apply it to the rest of the customer base. ​

The Dataset consists of 2206 rows, with 36 Columns.

# Business Problems

## 1. Customer Segmentation for Targeted Marketing

* Segment customers based on RFM (e.g., frequency, monetary value).
* Analyze customer segments based on Average Income.
* Determine the most profitable customer segments.

## 3. Campaign Effectiveness Evaluation

* Evaluate the acceptance rates of different campaigns.
* Identify which RFM segments respond best to different types of marketing campaigns..

## 4. Sales Performance Analysis

* Assess sales performance across different product categories (e.g., wines, fruits).
* Analyze sales performance across different RFM Segments..
* Identify high-performing and underperforming products.

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# Analyzing Process

### **Data Cleaning**

The initial step involved cleaning the dataset to ensure accuracy and reliability. The data cleaning process included:

* Checking missing values and removing duplicates (163 values).
* Manking a new column of CustomerID..

**Customer Segmentation**

* Identifying Recency column.
* Making Frequency and Monetary columns.
* Creating new dataframe for RFM.

**Analyzing Product Categories**:

* The analysis focused on six key product categories: Fish Products, Wines, Fruits, Meat Products, Sweet Products, and Gold Products.
* Sales data was aggregated and visualized to determine the most profitable categories and understand customer preferences across **RFM segments**.

**Campaign Effectiveness**:

* The acceptance rates of different marketing campaigns were evaluated.
* Comparing campaign performance with RFM segments.

### **Visualizations**

Key visualizations include:

* **Heatmaps** comparing RFM Segments, product categories and Campaign
* **Bar plots** Analysis.showing the distribution of RFM segments, Product Categories and Campaign Analysis.
* **Combined visualizations** that link customer segments to customer income.

# Insights & Recommendation

## Number of Customers in Each Segment.

* **Potential Loyalists:** The highest count with approximately 550 customers.
* **Champions:** A significant count, around 250 customers.
* **At Risk, Lost, New Customers:** Moderate counts ranging from 200 to 250 customers.
* **Loyal Customers, About to Sleep:** Lower counts, around 150 to 200 customers.
* **Can't Lose Them, Promising:** The lowest counts, with less than 100 customers each.

**Recommendations**

Develop targeted marketing strategies for acquisition, retention, and reactivation based on segment characteristics.

## Average Income by Customer Segment.

* **Highest:** Loyal Customers with an average income of 72500.29 units.
* **Lowest:** About to Sleep with an average income of 33084.97 units.

**Recommendations**

Use Income Levels to personalize the campaigns.

## Total Spend by Product Category

* **Wines** is the top-performing product category with a total spend of 619,421 units, while **Fruits** is significantly underperforming with a total spend of 619,421 units.
* **Mid-range:** The other categories' sales drop like this Meat Products, Gold Products, Fish Products and lastly Sweet Products.

**Recommendations**

Focus marketing and promotional efforts on high-performing product categories (MntWines) while investigating underperformance in categories like Fruits and identify opportunities for cross-selling or upselling.

## Sales by Product Category and RFM Segment

* Sales are highest for "Champions" and "Loyal Customers" across most product categories.
* Wines consistently contributes the largest portion of sales to each RFM segment.
* Fruits generally has the lowest sales across all segments.

**Recommendations**

Tailor marketing campaigns and product recommendations after analyzing the relationship between RFM segments and product preferences

## Acceptance Counts of Different Campaigns

**Acceptance Counts:**

* **Highest:** Campaign 4 with 155 acceptances.
* **Lowest:** Campaign 2 with 26 acceptances.
* **Mid-range:** Campaign 1, Campaign 3, and Campaign 5 have acceptance counts 133, 151 and 146 respectively.
* **Campaign 4** shows high acceptance rates across multiple RFM segments, particularly for "Champions" and "Loyal Customers."
* **Campaign 2** generally has lower acceptance rates compared to other campaigns.

**Recommendations**

* Optimize campaign messaging, targeting, and incentives to improve overall acceptance rates.
* Identify RFM segments with high acceptance rates for specific campaigns and tailor future campaigns accordingly.
* Focus on improving campaign performance for low-performing segments (New Customers, About to Sleep) through targeted messaging and incentives.