# Transformed Prototype Juice's sales data in Excel: cleaned, categorized juices by natural sweetener (date, honey, none), aggregated sales by type, size, loyalty, visualized trends with KPIs, line charts, bar charts (countries), top 5 customers, aiding decisions and identifying reward-worthy clients.

**Data Transformation**:

**Data Cleaning and Formatting:**

* Import the raw data containing sales transactions, including columns for date, juice type, sweetener type, size, loyalty card, country, customer name, and sales amount.
* Clean the data by removing any duplicates or irrelevant columns.
* Format the date column to ensure consistency using Excel's cell formatting options.

**Creating Helper Columns:**

* Add helper columns to categorize juices based on sweetener type (date, honey, without sweetener) using functions like IF or VLOOKUP.
* Create additional columns to extract year and month from the date column using Excel's date functions.
* Use the FIND and REPLACE functions to correct any inconsistencies or errors in the data.
* Aggregation and Summarization:
* Use the SUMIFS function to calculate total sales for each combination of attributes (juice type, sweetener type, size, loyalty card).
* Calculate the total sales for each country by using the SUMIFS function with the country as the criteria.
* Rank and categorize the top five customers using the RANK function.

**Data Validation and Error Handling:**

Implement data validation to ensure accurate entry of attributes (e.g., size, sweetener type).

Address any errors or discrepancies in the data using appropriate Excel functions.

**Visualizations:**

**KPIs and Line Charts:**

* Create KPI cards to display key metrics such as total sales, average sales, and growth rates for each attribute (juice type, sweetener type, size, loyalty card) over the four-year period.
* Develop line charts to illustrate the sales trends over the four years for different attributes.

**Bar Charts:**

* Design bar charts to compare sales by country, highlighting the differences in sales performance across various geographic regions.

**Top Customers and Rewards:**

* Create a bar chart or table to showcase the top five customers based on their sales, indicating their potential eligibility for the reward system.