

Product Analysis: Integrating NPS and Sentiment Analysis

About:

The objective of this project is to analyze the database to calculate the Net Promoter Score (NPS) and utilize the ChatGPT API to perform a sentiment analysis.

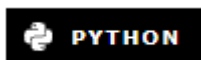
Proposal:

The project proposal is to apply an analytical approach that allows us to understand customers' perception and experience in depth. Using an API for sentiment analysis to extract information from feedback, identifying patterns and trends that will help us make strategic decisions based on customer opinions.

Repository Structure:

- **data:** Here you will find **.csv** file containing the data used for the analysis.
- **img:** This is where the screenshots obtained during the analysis can be found.
- **notebook:** This directory contains the **Jupyter notebook** where the analysis was conducted and the results obtained.
- **readme_translated:** This repository contains the **PDF** with the report translated into English.

Language Used:



Libraries Used:



Methodology:

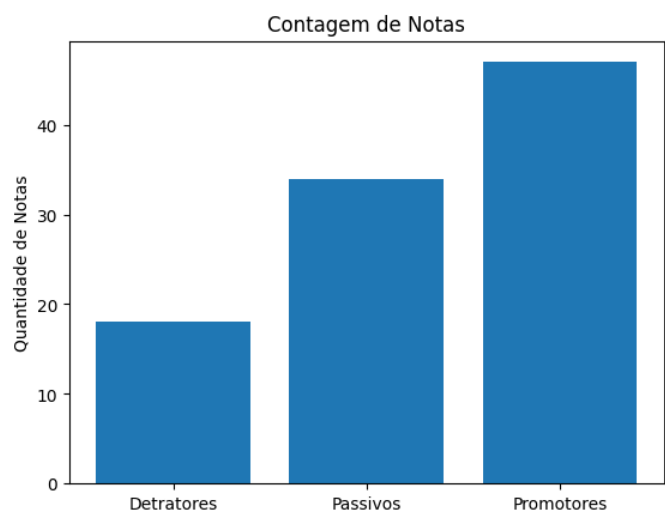
A company specializing in men's grooming cosmetics requested an analysis of the Net Promoter Score (NPS) and sentiment regarding their product, a beard oil.

Initially, we used the Pandas library to import and read the database.

	nota	comentario
0	9	Esse óleo de barba é incrível! Minha barba est...
1	10	Adorei esse óleo de barba! Hidratação perfeita...
2	8	Recomendo muito esse óleo de barba. Minha barb...
3	7	Ótimo óleo de barba. Textura leve e hidratação...
4	10	Meu novo óleo de barba favorito! Aroma suave e...
...
94	7	Esse óleo de barba é bom, mas demora um pouco ...
95	9	Estou muito satisfeito com a qualidade desse ó...
96	8	Esse óleo de barba é eficiente. Minha barba es...
97	10	Adoro usar esse óleo de barba. Minha barba fic...
98	7	Esse óleo de barba é bom, mas a embalagem pode...

99 rows × 2 columns

Next, we created a chart to understand the distribution of the number of votes in the Detractors, Passives, and Promoters categories.



We used a **for loop** to calculate the NPS based on the scores given by consumers, resulting in an approximate value of **29.29** in the NPS calculation.

```
nota = dados['nota']

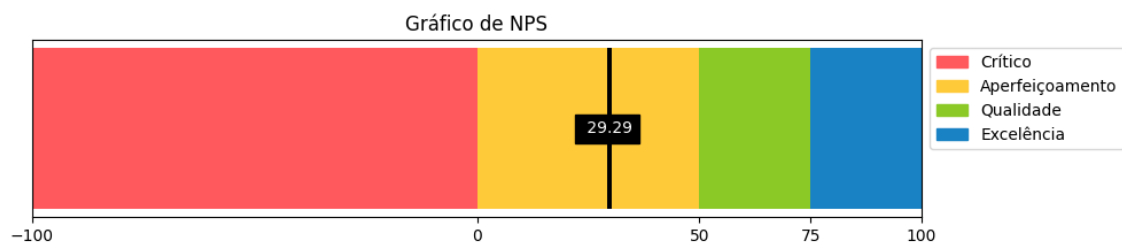
detratores = 0
promotores = 0

for nota in notas:
    if nota >= 9:
        promotores += 1
    elif nota <= 6:
        detratores += 1

nps = (promotores - detratores) / len(notas) * 100

print(nps)
```

The next step was to create a chart to contextualize the obtained value on the NPS scale.



We concluded the analysis, identifying that the value falls within the range indicated as **'Improvement'** on the NPS scale.

Sentiment Analysis:

Using the ChatGPT API to analyze product comments, we obtained the following results:

- The majority of comments (66%) evaluate the beard oil positively, with scores between 7 and 10. The most praised aspects are the beard's softness, the shine it provides, and long-lasting hydration.
- Some comments specifically mention the pleasant aroma of the beard oil, which is considered a positive factor.
- Some users expressed dissatisfaction with the product (10% of the comments), mentioning issues like skin irritation or unmet expectations.

- There are comments where users consider the beard oil good but point out aspects that could be improved, such as fragrance, price, or packaging.

Conclusion:

Overall, the analysis indicates a positive response to the beard oil, with the majority of users satisfied with the softness, shine, and hydration it provides. However, it's important to note that some consumers expressed dissatisfaction related to aspects like skin irritation, inadequate hydration, and product price. Additionally, suggestions for improvement were identified, especially regarding the fragrance, price, and packaging of the beard oil.

These analyses provided insights to guide future strategic decisions, aiming to enhance both the product and consumer experience. Continued attention to these aspects can contribute to customer retention and long-term success.