Analysis with Power BI in Logistics Management; Delivery and Return Control.

About:

This project aims to analyze a fictional logistics company.

Proposal:

The main objective of the project is to analyze the data using Power BI through a dashboard to improve the operational efficiency of the logistics company.

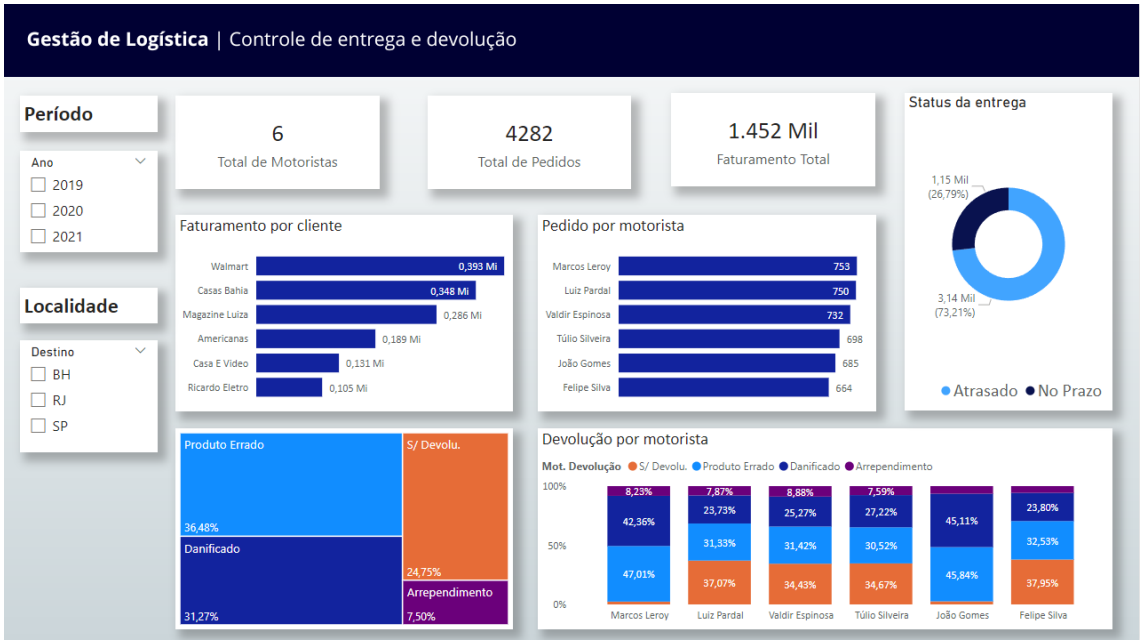
Repository Structure:

- **data:** Here you will find the **.xlsx** file containing the data used.
- **img:** This is where the screenshots obtained during the analysis can be found.
- **pbix:** This directory contains the file where the dashboard was created and the analysis was performed.
- **readme_translated:** This repository contains the **PDF** with the report translated into English.

Dataviz Tools Used:

Report:

A logistics company dedicated to serving the most renowned clients in the industry. They were specialists in transportation and delivery but faced significant challenges. The punctuality of deliveries and management of returns were obstacles that needed to be overcome to ensure customer satisfaction.



The team had 6 drivers to serve the cities of Rio de Janeiro, São Paulo, and Belo Horizonte. Over the analyzed period, they processed a total of 4,282 orders, achieving a total revenue of approximately R$1,452,000. Speaking of revenue per customer, there was a clear disparity. Walmart was the top-contributing customer, with about 393 thousand reais, while Ricardo Eletro had the lowest contribution, with approximately 104 thousand reais. A major challenge was delivery delays, with a surprising 73.21% of them occurring late. This fact compromised customer satisfaction and demanded corrective action. Return reasons were also a concern. More than 30% of the products had issues, with a notable presence of Wrong and Damaged Products. On the other hand, about 24.75% of the products had no issues being returned.

In the year 2019, the company had a total revenue of R$107,000, coming from 107 orders. Of this revenue, 69% of the orders experienced delivery delays. Walmart was the largest contributor to the revenue, except in São Paulo, where Magazine Luiza took the lead with R$11,580,000. Regarding returns, São Paulo had the highest rate, followed by Rio de Janeiro due to damaged products. On the other hand, Belo Horizonte showed the best performance, with 33.33% of the products not resulting in returns, followed by São Paulo, which also had a significant rate. Among the returns in Belo Horizonte, Americanas had the lowest return rate, at 53.85%.

In 2020, the total revenue increased significantly to 1 million, with a total of 2,974 orders. However, the delivery delay rate also increased to 72.16%. Walmart continued to dominate the company's revenue, and the reasons for returns remained consistent, maintaining numbers similar to the previous year.

In 2021, with a total revenue of R$341,000 from 1,010 orders, the delivery delay rate increased to 77.52%. Casas Bahia stood out, dominating the revenue with R$69,000. In Rio de Janeiro, Magazine Luiza and Americanas also had significant contributions, approximately R$20,000 each. The reasons for returns remained consistent over the years.

Conclusion:

Analyzing the data, it is evident that the company faced persistent challenges with delivery delays and reasons for returns. These problems do not seem to be exclusively attributable to the drivers, indicating that they are widespread issues in the company's operation. The dominance of major retailers such as Walmart, Magazine Luiza, Americanas, and Casas Bahias in revenue highlights the fierce competition in the retail sector, requiring the company to seek effective strategies to improve operational efficiency and customer satisfaction, especially in terms of delivery times and product quality.

Given this scenario, presenting some alternatives is viable. Some of these include:

- Evaluate and optimize delivery routes to reduce delays.
- Establish product verification procedures before shipment to reduce wrong and damaged products.
- Implement an order and delivery management system to automate processes and improve operational efficiency.
- Utilize technology to monitor driver performance and identify areas for improvement.
- Establish performance metrics and conduct regular analyses to monitor progress and make necessary adjustments.