ANALYSIS ON OLIST USING POWERBI

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Introduction

In the ever-evolving landscape of Brazilian e-commerce, Olist stands as a beacon of innovation and empowerment. My role as a consultant, closely aligned with Olist's mission, revolves around harnessing the immense potential of the Brazilian E-Commerce Public Dataset. Through data analysis and business intelligence, I aim to uncover pivotal factors that influence customer satisfaction, sellers and delivery performance within the Brazilian e-commerce sphere. By extracting actionable insights from this rich dataset, my objective is to equip Olist with the knowledge needed to enhance customer experiences, streamline delivery operations, and propel the company towards holistic business growth. In a dynamic industry like e-commerce, where data-driven decision-making is paramount, Olist seeks to leverage analytics to stay ahead of the curve.

Company Background

Founded in 2015 by the visionary duo of Tiago Dalvi and Carlos Curioni in Curitiba, Brazil, Olist has emerged as a prominent force in the country's thriving e-commerce ecosystem. At its core, Olist operates as a robust e-commerce platform and marketplace, dedicated to empowering small and medium-sized businesses throughout Brazil. This mission has propelled the company to offer an extensive suite of services and tools, simplifying the process for sellers to list and sell their products online. What truly sets Olist apart is its unwavering commitment to supporting sellers, offering vital solutions such as inventory management, order fulfilment, and customer service support, which streamline operations and bolster competitiveness.

Over the years, Olist has secured investments from various venture capital firms, fuelling its growth and innovation efforts. These investments have been strategically channelled into technology development, marketing initiatives, and the expansion of its talented team. As a result, Olist has solidified its position as a leader in the Brazilian e-commerce sector.

In addition to its impressive growth trajectory, Olist has forged strategic partnerships with major e-commerce platforms and marketplaces in the region, including the likes of MercadoLibre, Americanas, and Shopee. These collaborations have amplified the visibility and sales potential of its sellers, expanding their reach and impact in the digital marketplace.

Olist's impact on the Brazilian e-commerce landscape is profound. By providing a user-friendly and supportive platform, the company has empowered thousands of small and medium-sized businesses to establish a robust online presence, connect with a broader audience, and flourish in the digital realm. Olist envisions a future where it continues to facilitate the success of businesses across Brazil through innovative solutions, thus contributing to the growth of the country's digital economy. As a driving force behind the transformation of e-commerce in Brazil, Olist unites businesses and consumers in a seamless online shopping experience, fostering a vibrant and dynamic digital ecosystem.

Business Formulation

Olist, a visionary Brazilian technology company founded in 2015, has been on a mission to empower and uplift small and medium-sized businesses across Brazil. Their innovative platform serves as a gateway for merchants to effortlessly establish their virtual stores and expand their customer reach. Through strategic integration with various e-commerce platforms and marketplaces, Olist amplifies sellers' online presence and equips them with invaluable selling tools. Offering a holistic suite of services encompassing inventory management, order processing, and logistics, Olist simplifies the intricate world of online sales for businesses.

In my role as a dedicated consultant for Olist, my mission is to unlock the full potential of their data for business enhancement. By delving into the wealth of insights hidden within the Brazilian E-Commerce Public Dataset, I am poised to uncover the key drivers that will elevate customer satisfaction, streamline delivery operations, and propel overall business growth. Armed with expertise in data analysis and business intelligence, I am committed to guiding Olist in making well-informed decisions and harnessing the true power of their data in the fiercely competitive e-commerce landscape.

In today's highly competitive market, where staying ahead of the curve is paramount, Olist recognizes the imperative need for such analysis. By harnessing data-driven insights, Olist aims to not only thrive but also to lead the charge in this dynamic and fiercely competitive e-commerce landscape.

Problem Statement

Olist, operating in the midst of the data-rich landscape of the modern big data era, is faced with a significant challenge. In an environment where the three Vs, velocity, volume, and variety, define the data landscape, Olist struggles to harness the immense potential hidden within this sea of information. Despite being surrounded by a vast pool of high-velocity, high-volume, and diverse data, the organization faces several obstacles that hinder its ability to fully leverage this invaluable commercial data:

1. Data Overload in the Big Data Era: Olist grapples with the overwhelming task of managing the enormous volume of data generated at a rapid pace. The sheer magnitude and speed at which data is generated make it a challenge to extract meaningful insights from this abundance.

2. Diversity of Data Sources: Adding complexity to the equation is the diverse array of data sources that Olist relies on. From vendor profiles to consumer transactions and various other sources, the data landscape is multifaceted. Integrating and analysing data from such diverse sources demands advanced methods and tools.

3. Absence of Data Integration: Olist faces integration challenges due to the diversity of data sources. These challenges impede the seamless combination of data from various origins, hindering the organization's ability to gain a holistic view of its operations.

4. Data Quality Assurance: Maintaining data precision and quality is a continuous challenge. Olist must establish robust procedures to validate and cleanse the vast dataset, preventing errors from propagating and compromising the accuracy of their analyses.

5. Underutilization of Data: Despite being in possession of a data treasure trove, Olist lacks the means to effectively explore its potential. The richness of their data remains largely untapped, limiting their ability to make informed decisions and drive business advancements.

6. Limited Data Expertise: The absence of expertise in data deciphering and evaluation poses a significant hurdle. Without the necessary knowledge and skills, extracting valuable insights, identifying trends, and making informed, data-driven decisions remain daunting tasks for Olist.

Olist's ambition is to bridge the gap between data collection and meaningful business enhancements by addressing these challenges. To empower Olist in comprehending these obstacles and transforming them into opportunities for growth and success within the fiercely competitive e-commerce landscape, our proposed business intelligence solution takes the form of extensive dashboard pages. These dashboard pages aim to provide a navigational guide through the complexities of data, enabling Olist to make data-driven decisions with confidence and knowledge.

Stakeholders

Stakeholders play a pivotal role in shaping the success and direction of any organization, and Olist is no exception. In the context of leveraging data for business improvement, understanding and aligning with the needs, perspectives, and expectations of stakeholders are critical to the relevance and effectiveness of the proposed business intelligence solution at Olist. Here, we identify and elaborate on the key stakeholders at Olist:

1. Chief Executive Officer (CEO):

- Role: As the highest-ranking executive, the CEO sets the strategic vision and goals for the organization. The CEO is keen to understand how data-driven insights contribute to achieving these objectives.

2. Data Scientists and Analysts:

- Role: Data experts are instrumental in extracting insights from data analysis. They are central to the implementation of the proposed business intelligence solution, ensuring the reliability and accuracy of the analyses.

3. Marketing Team:

- Role: The marketing department is responsible for business expansion and customer satisfaction surveys. Informed decision-making and optimization of marketing strategies rely

on a deep understanding of consumer behaviour, preferences, and the effectiveness of marketing campaigns.

4. Operations Team:

- Role: Insights related to product analysis and delivery performance optimization are valuable to the operations team, especially those involved in inventory and delivery management. Their daily responsibilities are directly impacted by enhanced delivery procedures and efficient inventory management.

5. Customer Service Team:

- Role: Customer service teams are at the forefront of addressing client complaints and feedback. Customer satisfaction analysis provides valuable insights for refining customer service strategies and enhancing the overall customer experience.

6. Sellers of Olist:

- Role: Sellers are critical stakeholders as their performance directly influences customer satisfaction and business growth. A mutual understanding of seller analytics fosters a stronger relationship between Olist and its sellers, enabling collaborative improvements.

7. IT Department:

- Role: The IT department plays a crucial technical role in the implementation and maintenance of the proposed business intelligence solution. They ensure the seamless functionality of dashboard pages and integration of data sources.

8. Finance Division:

- Role: The finance team is interested in understanding how business expansion translates into financial metrics. Insights into sales performance and overall business growth inform financial planning and decision-making.

9. Logistics Team:

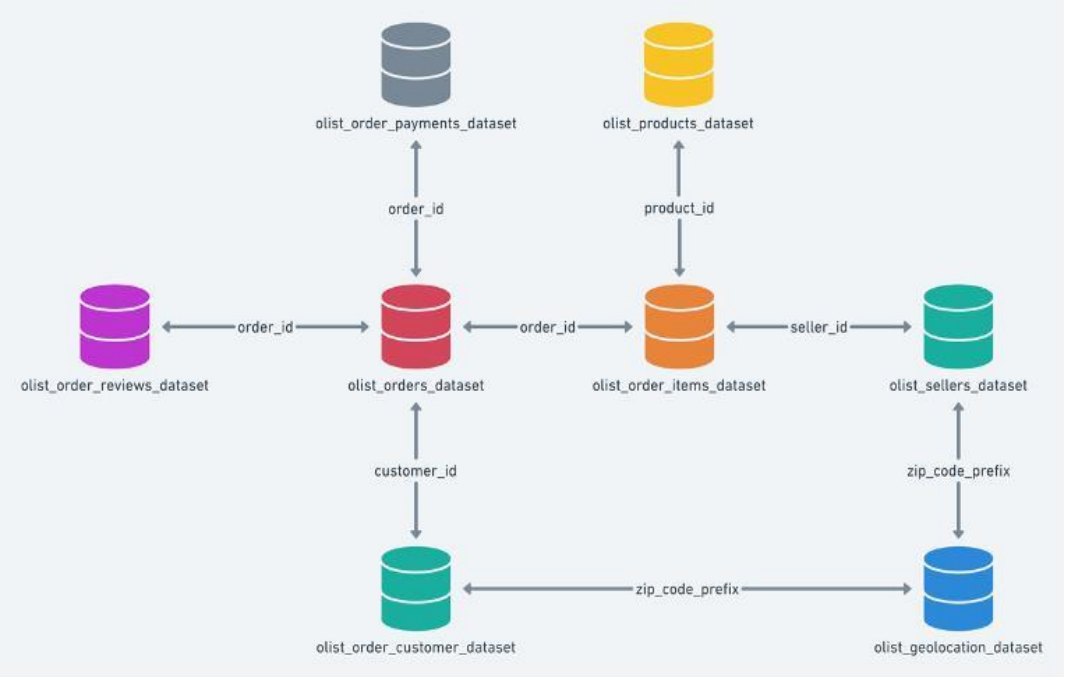
- Role: The logistics team is vital for achieving delivery performance optimization objectives. Their operations directly benefit from insights into delivery schedules, freight values, and other factors affecting delivery success.

10. Customers of Olist:

- Role: Ultimately, customers are the ultimate stakeholders, even if they are not actively involved in the project. The project's goal is to enhance customer satisfaction, and the knowledge gained will impact the entire customer experience with Olist.

Engaging and collaborating with these stakeholders at every stage of the project ensures that the analyses, insights, and recommendations align with Olist's overarching goals and objectives. This promotes a data-driven and collaborative organizational culture, fostering a collective effort towards business improvement and growth.

Data Source



The dataset utilized for analysis is the Brazilian E-Commerce Public Dataset provided by Olist, accessible on Kaggle (Link: https://www.kaggle.com/datasets/olistbr/brazilian-ecommerce) . This dataset comprises a vast collection of Excel files, each offering valuable insights into various facets of Olist's e-commerce operations. It encompasses data related to customer orders, customer demographics, geolocation information, order items, payments, reviews, products, and seller details. These datasets collectively provide a comprehensive view of the e-commerce landscape in Brazil, allowing for an in-depth exploration of market dynamics, customer behaviour, delivery performance, and customer satisfaction within the Brazilian e-commerce sector.

The dataset spans a period from 2016 to 2018 and consists of approximately 100,000 orders placed across multiple marketplaces in Brazil. It covers essential aspects of each order, including order status, pricing, payment and shipping performance, customer location, product attributes, and customer reviews. Additionally, a geolocation dataset is available, which maps Brazilian zip codes to latitude and longitude coordinates, enhancing the geographical analysis capabilities.

Dataset	**Number of Columns**	**Columns Name**
Customers	5	customer_id, customer_unique_id, customer_zip_code_prefix, customer_city, customer_state
Geolocation	5	geolocation_zip_code_prefix, geolocation_lat, geolocation_lng, geolocation_city, geolocation_state
Items	7	order_id, order_item_id, product_id, seller_id, shipping_limit_date, price, freight_value
Payments	5	order_id, payment_sequential, payment_type, payment_installments, payment_value
Orders	8	order_id, customer_id, order_status, order_purchase_timestamp, order_approved_at, order_delivered_carrier_date,

		order_delivered_customer_date, order_estimated_delivery_date
Products	9	product_id, product_category_name, product_name_lenght, product_description_lenght, product_photos_qty, product_weight_g, product_length_cm, product_height_cm, product_width_cm
Reviews	7	review_id, order_id, review_score, review_comment_title, review_comment_message, review_creation_date, review_answer_timestamp
Sellers	4	seller_id, seller_zip_code_prefix, seller_city, seller_state
Category Translation	2	product_category_name, product_category_name_english

Data Types

The dataset contains a diverse range of data types, each serving a specific purpose in the analysis:

- Structured Data: The primary form of data in this dataset is structured data, organized into predefined formats with clear schemas. It is presented in tabular formats, typically in CSV files, making it suitable for analysis using database-like operations.

- Categorical Data: Categorical data represents discrete and finite categories or groups. Examples within the dataset include product categories, order statuses, and customer locations. These categorical attributes help classify and categorize information.

- Numerical Data: Numerical data includes quantitative measurements such as order values, product prices, delivery timelines, and product dimensions. These numerical attributes enable quantitative analysis and statistical insights.

- Textual Data: Textual data is present in customer reviews comments and product descriptions. These text-based attributes offer opportunities for sentiment analysis, text mining, and customer sentiment assessments.

- Temporal Data: The dataset contains timestamps associated with various events, such as order purchase, approval, delivery, and review creation. Temporal data facilitates time-based analysis and tracking of order lifecycles.

- Geospatial Data: Geospatial data is available through the geolocation dataset, providing latitude and longitude coordinates for Brazilian zip codes. This geospatial information supports geographical analyses and mapping.

- Identifier Data: Identifier data includes unique IDs for customers, orders, products, sellers, and reviews. These IDs serve as key references for connecting and linking data across different datasets.

The diverse nature of the data types within the Olist dataset offers a rich foundation for conducting comprehensive analyses, deriving actionable insights, and gaining a deeper understanding of the Brazilian e-commerce market.

Goals & Objectives

Ultimate goal:

Delivering an insightful dashboard with actionable insights for decision-making that promotes improvements in customer happiness, customer loyalty, seller accomplishment, and overall business performance is the ultimate aim. In addition to analysing and comprehending the data, the suggested activities under each target seek to turn the findings into real, practical advancements for the entire company. This strategy fits with the overarching goal of using data to produce favourable results and guarantee Olist's continuous success in the cutthroat world of e-commerce.

Objectives:

Objective 1: Analysis of customer satisfaction

Review customer feedback and pertinent data, such order status and vendor performance, to undertake a thorough investigation of customer satisfaction. Determine the main factors influencing customer satisfaction by investigating how these variables affect customer reviews. Develop initiatives based on the results to improve the general customer experience and satisfaction.

Objective 2: Company Growth Analysis

Monitor sales performance, customer counts, and unique customer counts in order to assess company growth measures. Examine features such as customer ID and things purchased to identify trends that support company expansion. Determine potential growth areas and tactics to boost revenue while maintaining client loyalty and retention.

Objective 3: Utilizing Product Analysis to Manage Inventory

To improve inventory control, do a thorough product analysis. Examine stock levels in relation to products that are seldom purchased, products that are regularly purchased, and shelf-life factors. Create plans to guarantee effective inventory control, reducing instances of overstock and understock.

Objective 4: Delivery Performance Optimization

Evaluate the elements that impact delivery performance, such as weight, freight values, and customer feedback, and analyse the time required for each item's delivery. Examine whether there is a relationship between these factors and delivery timings. Create plans to increase consumer satisfaction with the delivery experience overall, increase efficiency, and optimize delivery operations.

Objective 5: Examining Sellers for Labor Force Management

Analyse the number of sellers in each area and assess seller effectiveness indicators. Examine the connection between performance, consumer happiness, and the number of sellers. Look into the possibility that more sellers translate into more sales. Using seller analysis as a basis, develop labour force management solutions that work.

Objective 6: Reporting and Visualization

Employ business intelligence technologies to generate detailed dashboard pages that provide an overview of the analysis conducted. Provide reports that are aesthetically pleasing and simple to read, offering a comprehensive perspective on seller insights, delivery performance, product analysis, customer happiness, and business growth. Share practical findings with stakeholders to facilitate better decision-making and organizational-wide process enhancements.

Storyline

In the fast-paced and highly competitive world of e-commerce, Olist faces critical business challenges that require immediate attention. As a dedicated consulting team collaborating closely with Olist, we have identified these challenges and recognize the paramount significance of harnessing data to overcome them and drive sustainable growth. Failure to address these issues and harness the potential of data could result in severe consequences for Olist's business:

1. Decreased Customer Satisfaction: Olist's failure to grasp the factors influencing customer satisfaction and implement necessary process improvements may lead to a decline in customer happiness. This downward trend could result in negative customer reviews, reduced customer loyalty, and a potential loss of market share to competitors who prioritize customer experience.

2. Inefficient Delivery Processes: Inefficient delivery processes can lead to delayed shipments, extended delivery times, and increased operational costs. Such inefficiencies can result in dissatisfied customers, missed delivery deadlines, and potential loss of sales. Meeting customer expectations for timely and efficient deliveries is crucial in a competitive market, and Olist's reputation may be at risk if these standards are not met.

3. Missed Seller Performance Tracking: Olist's current approach may involve limited tracking of seller performance, potentially missing opportunities to assess and enhance seller effectiveness. This lack of insight into seller performance could lead to suboptimal partnerships and impact overall customer satisfaction.

4. Missed Growth Opportunities: Data is a treasure trove of valuable insights that can unlock hidden growth opportunities. Failing to leverage data effectively could result in Olist overlooking emerging trends, failing to understand customer demands, and missing potential market openings. Such oversights could lead to stagnant growth and put Olist behind competitors who harness data for their advantage.

To mitigate these adverse outcomes and secure Olist's success in the fiercely competitive e-commerce landscape, it is imperative to address these identified business challenges through our data analysis initiatives. By harnessing data-driven insights, Olist can enhance customer satisfaction, optimize delivery processes, assess and enhance seller performance, and identify unexplored avenues for growth. This proactive approach will empower Olist to maintain competitiveness, attract new customers, retain their current customer base, and achieve sustainable business expansion in the dynamic e-commerce arena.

Visualisation Tool – PowerBi

To streamline the process of creating interactive dashboard pages and visualizations, our choice for the primary tool is Power BI. Developed by Microsoft, Power BI is a robust business intelligence platform renowned for its user-friendly interface, comprehensive visualization features, and effortless integration with diverse data sources.

Seamless Data Integration: Power BI excels in its ability to effortlessly integrate with a multitude of data sources, ranging from local files to cloud-based databases. This versatility ensures that we can efficiently harness the data from the Brazilian E-Commerce Public Dataset by Olist, simplifying the analysis process.

Versatile Visualization Options: Power BI offers a diverse array of visualization options, spanning from traditional charts to advanced visuals. These options can be easily tailored to meet specific needs, enabling us to present data in a visually engaging and interactive manner. The flexibility of Power BI empowers stakeholders to explore data dynamically, enhancing their understanding of critical insights.

Dynamic Real-Time Updates: Power BI provides the capability to schedule automated data refreshes or update data in real-time. This means that as new data becomes available, the dashboards and visualizations in Power BI can seamlessly reflect the most recent information. This real-time aspect ensures that decision-makers have access to the freshest insights when making crucial business decisions.

Enhanced Collaboration and Sharing: Power BI fosters effortless collaboration and sharing of dashboards and reports among Olist's team members. Multiple stakeholders can simultaneously access and interact with the dashboards, promoting effective collaboration and knowledge exchange. The option to publish dashboards to the Power BI service extends accessibility, enabling stakeholders to view visualizations from anywhere, anytime.

Advanced Analytical Capabilities: Power BI doesn't just stop at data visualization; it offers advanced analytical functionalities. These include the incorporation of machine learning algorithms, natural language processing, and custom calculations. Such capabilities empower us to delve into comprehensive data analysis, unearth valuable insights, and uncover hidden patterns within the dataset.

In conclusion, Power BI's seamless data integration, versatile visualization tools, real-time updates, collaborative features, and advanced analytics capabilities make it the ideal choice for creating interactive dashboards that empower Olist to explore and comprehend the analysed data. These visually captivating and interactive dashboards provide stakeholders with actionable insights, enabling informed decision-making and driving improvements in customer satisfaction, delivery performance, and overall business growth.

Data Preparation

In preparation for data visualization and analysis in Power BI, we meticulously prepared the data to ensure its quality and consistency. This process involved various critical steps:

1. Importing Data: We started by importing data from multiple CSV files into separate Pandas DataFrames, each representing different facets of the business, such as customer information, orders, products, payments, and more.

Import data

```
import pandas as pd
import numpy as np
from pandas.tseries.offsets import DateOffset
```

```
# Import data files
Customers       =     pd.read_csv("olist_customers_dataset.csv")
Orders          =     pd.read_csv("olist_orders_dataset.csv")
Products        =     pd.read_csv("olist_products_dataset.csv")
Sellers         =     pd.read_csv("olist_sellers_dataset.csv")
OrderDetails    =     pd.read_csv("olist_order_items_dataset.csv")
Payments        =     pd.read_csv("olist_order_payments_dataset.csv")
Reviews         =     pd.read_csv("olist_order_reviews_dataset.csv")
Product_category =    pd.read_csv("product_category_name_translation.csv")
```

2. Replacing Product Categories: To enhance data clarity and consistency, we standardized product category names by replacing them with their English translations using a reference dataset.

Replace product to English categories

```
# Replace product category name with english
Products["product_category_name"].replace(Product_category.set_index("product_category_name")["product_category_name_english"
Products.head()
```

3]:

	product_id	product_category_name	product_name_lenght	product_description_lenght	product_photos_qty	product_weight_g	pr
0	1e9e8ef04dbcff4541ed26657ea517e5	perfumery	40.0	287.0	1.0	225.0	
1	3aa071139cb16b67ca9e5dea641aaa2f	art	44.0	276.0	1.0	1000.0	
2	96bd76ec8810374ed1b65e291975717f	sports_leisure	46.0	250.0	1.0	154.0	
3	cef67bcfe19066a932b7673e239eb23d	baby	27.0	261.0	1.0	371.0	
4	9dc1a7de274444849c219cff195d0b71	housewares	37.0	402.0	4.0	625.0	

3. Removing Unwanted Columns: In the interest of data efficiency and simplicity, we pruned irrelevant columns from the datasets, streamlining the data for analysis.

Remove unwanted columns

```
# Remove specified columns from the "product" dataset
product_columns_to_remove = ['product_name_lenght', 'product_description_lenght', 'product_photos_qty']
Products = Products.drop(columns=product_columns_to_remove)

# Remove specified columns from the "review" dataset
review_columns_to_remove = ['review_comment_title', 'review_comment_message', 'review_answer_timestamp']
Reviews = Reviews.drop(columns=review_columns_to_remove)
```

4. Data Type Conversion: One of the significant changes made during data preparation was the conversion of timestamp columns in the Orders DataFrame to datetime objects. This conversion not only ensured data accuracy but also facilitated precise time-based analyses and visualizations.

```
Customers - Data Types:
customer_id                object
customer_unique_id         object
customer_zip_code_prefix    int64
customer_city              object
customer_state             object
dtype: object

Orders - Data Types:
order_id                         object
customer_id                      object
order_status                     object
order_purchase_timestamp         object
order_approved_at                object
order_delivered_carrier_date     object
order_delivered_customer_date    object
order_estimated_delivery_date    object
dtype: object

Products - Data Types:
product_id                 object
product_category_name      object
product_weight_g          float64
product_length_cm         float64
product_height_cm         float64
product_width_cm          float64
dtype: object

Sellers - Data Types:
seller_id                 object
seller_zip_code_prefix     int64
seller_city               object
seller_state              object
dtype: object

OrderDetails - Data Types:
order_id                object
order_item_id            int64
product_id              object
seller_id               object
shipping_limit_date     object
price                  float64
freight_value          float64
dtype: object

Payments - Data Types:
order_id                 object
payment_sequential        int64
payment_type             object
payment_installments      int64
payment_value            float64
dtype: object

Reviews - Data Types:
review_id                object
order_id                 object
review_score              int64
review_creation_date     object
dtype: object
```

Convert to correct data types

```
# List of timestamp columns
date_columns = ['order_approved_at', 'order_delivered_carrier_date', 'order_delivered_customer_date',
                'order_purchase_timestamp', 'order_estimated_delivery_date']

# Convert timestamp columns to datetime in the Orders DataFrame
Orders[date_columns] = Orders[date_columns].apply(pd.to_datetime)

# Convert 'shipping_limit_date' column to datetime in the OrderDetails DataFrame
OrderDetails['shipping_limit_date'] = pd.to_datetime(OrderDetails['shipping_limit_date'])
```

5. Handling Missing Values: Addressing missing values was another vital aspect of our data preparation. Here's how we managed missing data:

6. Checking for Duplicates: To maintain data integrity and prevent redundancy, we identified and removed duplicate records from the datasets.

```
Customers Dataset:
Total rows: 99441
Missing values:
customer_id                 0
customer_unique_id          0
customer_zip_code_prefix    0
customer_city               0
customer_state              0
dtype: int64
Duplicates: 0

Orders Dataset:
Total rows: 99441
Missing values:
order_id                            0
customer_id                         0
order_status                        0
order_purchase_timestamp            0
order_approved_at                 160
order_delivered_carrier_date     1783
order_delivered_customer_date    2965
order_estimated_delivery_date       0
dtype: int64
Duplicates: 0

Products Dataset:
Total rows: 32951
Missing values:
product_id                  0
product_category_name     610
product_weight_g            2
product_length_cm           2
product_height_cm           2
product_width_cm            2
dtype: int64
Duplicates: 0

Sellers Dataset:
Total rows: 3095
Missing values:
seller_id                 0
seller_zip_code_prefix    0
seller_city               0
seller_state              0
dtype: int64
Duplicates: 0

OrderDetails Dataset:
Total rows: 112650
Missing values:
order_id               0
order_item_id          0
product_id             0
seller_id              0
shipping_limit_date    0
price                  0
freight_value          0
dtype: int64
Duplicates: 0

Payments Dataset:
Total rows: 103886
Missing values:
order_id               0
payment_sequential     0
payment_type           0
payment_installments   0
payment_value          0
dtype: int64
Duplicates: 0

Reviews Dataset:
Total rows: 99224
Missing values:
review_id              0
order_id               0
review_score           0
review_creation_date   0
dtype: int64
Duplicates: 0
```

- For timestamp columns related to order approvals, carrier deliveries, and customer deliveries, we calculated the average durations based on available data. These average durations were then used to fill in missing values, guaranteeing the reliability of time-related analyses.

- In the Products DataFrame, we handled missing values differently. We filled empty rows in the "product_category_name" column with 'unknown' to maintain data completeness.

- Any remaining rows with missing values were removed to further enhance data quality.\

Handle missing values

```
# Calculate the duration between the columns
Orders['duration_approved'] = Orders['order_approved_at'] - Orders['order_purchase_timestamp']
Orders['duration_carrier'] = Orders['order_delivered_carrier_date'] - Orders['order_purchase_timestamp']
Orders['duration_delivered'] = Orders['order_delivered_customer_date'] - Orders['order_purchase_timestamp']

# Calculate the average duration for each column
avg_duration_approved = Orders['duration_approved'].mean().days
avg_duration_carrier = Orders['duration_carrier'].mean().days
avg_duration_delivered = Orders['duration_delivered'].mean().days

# Create boolean masks for the missing values in each column
mask_approved = Orders['order_approved_at'].isnull()
mask_carrier = Orders['order_delivered_carrier_date'].isnull()
mask_delivered = Orders['order_delivered_customer_date'].isnull()

# Fill the missing values using the mean duration and the corresponding "order_purchase_timestamp"
Orders.loc[mask_approved, 'order_approved_at'] = Orders.loc[mask_approved, 'order_purchase_timestamp'] +
DateOffset(seconds=avg_duration_approved)
Orders.loc[mask_carrier, 'order_delivered_carrier_date'] = Orders.loc[mask_carrier, 'order_purchase_timestamp'] +
DateOffset(seconds=avg_duration_carrier)
Orders.loc[mask_delivered, 'order_delivered_customer_date'] = Orders.loc[mask_delivered, 'order_purchase_timestamp'] +
DateOffset(seconds=avg_duration_delivered)

# Remove the duration columns
Orders.drop(['duration_approved', 'duration_carrier', 'duration_delivered'], axis=1, inplace=True)

# Fill empty rows in 'product_category_name' with 'unknown'
Products['product_category_name'] = Products['product_category_name'].fillna('unknown')
Products = Products.dropna()
```

```
Customers Dataset (After handling missing values):
Missing values:
customer_id                 0
customer_unique_id          0
customer_zip_code_prefix    0
customer_city               0
customer_state              0
dtype: int64
```

```
Orders Dataset (After handling missing values):
Missing values:
order_id                        0
customer_id                     0
order_status                    0
order_purchase_timestamp        0
order_approved_at               0
order_delivered_carrier_date    0
order_delivered_customer_date   0
order_estimated_delivery_date   0
dtype: int64
```

```
Products Dataset (After handling missing values):
Missing values:
product_id              0
product_category_name   0
product_weight_g        0
product_length_cm       0
product_height_cm       0
product_width_cm        0
dtype: int64
```

```
Sellers Dataset (After handling missing values):
Missing values:
seller_id               0
seller_zip_code_prefix  0
seller_city             0
seller_state            0
dtype: int64
```

```
OrderDetails Dataset (After handling missing values):
Missing values:
order_id            0
order_item_id       0
product_id          0
seller_id           0
shipping_limit_date 0
price               0
freight_value       0
dtype: int64
```

```
Payments Dataset (After handling missing values):
Missing values:
order_id                0
payment_sequential      0
payment_type            0
payment_installments    0
payment_value           0
dtype: int64
```

```
Reviews Dataset (After handling missing values):
Missing values:
review_id               0
order_id                0
review_score            0
review_creation_date    0
dtype: int64
```

7. Checking Unique Values: We examined the number of unique values in each column across the datasets, providing insights into data distribution and helping identify potential categorical variables.

```
Customers Dataset - Number of Unique Values:
customer_id                 99441
customer_unique_id          96096
customer_zip_code_prefix    14994
customer_city                4119
customer_state                 27
dtype: int64
```

```
Orders Dataset - Number of Unique Values:
order_id                        99441
customer_id                     99441
order_status                        8
order_purchase_timestamp        98875
order_approved_at               90893
order_delivered_carrier_date    82793
order_delivered_customer_date   98615
order_estimated_delivery_date     459
dtype: int64
```

```
OrderDetails Dataset - Number of Unique Value
order_id               98666
order_item_id             21
product_id             32951
seller_id               3095
shipping_limit_date    93318
price                   5968
freight_value           6999
dtype: int64
```

```
Products Dataset - Number of Unique Values:
product_id              32949
product_category_name      74
product_weight_g         2204
product_length_cm          99
product_height_cm         102
product_width_cm           95
dtype: int64
```

```
Payments Dataset - Number of Unique Values:
order_id               99440
payment_sequential        29
payment_type               5
payment_installments      24
payment_value          29077
dtype: int64
```

```
Sellers Dataset - Number of Unique Values:
seller_id               3095
seller_zip_code_prefix  2246
seller_city              611
seller_state              23
dtype: int64
```

```
Reviews Dataset - Number of Unique Values:
review_id               98410
order_id                98673
review_score                5
review_creation_date      636
dtype: int64
```

8. Saving as New CSV Files: Following data preparation, we safeguarded our work by saving the cleaned and transformed datasets as new CSV files. This step ensured that the changes made during data preparation were preserved for future reference.

These meticulous data preparation steps were pivotal in ensuring that the data uploaded to Power BI met high standards of quality and consistency. The resulting clean and structured data will empower stakeholders to extract meaningful insights and make informed decisions through Power BI dashboards.

Import Data – PowerBi

After completing the data preparation process, we proceeded to import the prepared data into Power BI. Once the data was within the Power BI environment, we conducted a final check to ensure that the data types and overall data quality were in optimal condition before proceeding with next steps. This validation step was crucial to confirm that everything was in order and ready for analysis within the Power BI platform. Before proceeding with visualization in Power BI, it was essential to establish relationships between the different tables in our dataset. These relationships enable us to connect and combine data from multiple tables seamlessly, allowing for comprehensive analysis and visualization.

Here are the established relationships between the tables:

- Orders to Customers: There is a one-to-many relationship from Customers to Orders through the "customer_id" field. This means that one customer can have multiple orders associated with them. This relationship allows us to link customer information to their respective orders.

- Orders to OrderDetails: There is a one-to-many relationship from Orders to OrderDetails through the "order_id" field. This indicates that one order can consist of multiple order details. This relationship enables us to associate specific products and details with each order.

- Orders to Reviews: There is a one-to-one relationship between Orders and Reviews through the "order_id" field. This suggests that each order has one corresponding review. This relationship allows us to link order information with customer reviews.

- Orders to Payments: There is a one-to-many relationship from Orders to Payments through the "order_id" field. This means that one order can have multiple payment records associated with it. This relationship helps us analyse payment data in the context of orders.

- OrderDetails to Products: There is a one-to-many relationship from Products to OrderDetails through the "product_id" field. This indicates that one product can appear in multiple order details. This relationship allows us to retrieve product-specific information for each order detail.

- OrderDetails to Sellers: There is a one-to-many relationship from Sellers to OrderDetails through the "seller_id" field. This suggests that one seller can have multiple order details associated with their products. This relationship enables us to analyse seller-specific data in the context of order details.

These relationships are typical in an e-commerce data model, where various aspects of transactions, such as orders, payments, and reviews, are connected through related identifiers.

Establishing these relationships is crucial for data integration and provides a foundation for creating meaningful visualizations and conducting comprehensive analysis within Power BI.

Visualization & Dashboards

Six distinct dashboard pages have been created to empower Olist in its quest to analyse and enhance various aspects of its operations. Each dashboard has a unique purpose, serving as a valuable resource for specific areas of focus and decision-making. Here's an overview of these purpose-driven dashboard pages:

1. Customers Dashboard Page:

   Purpose: This dashboard is designed to track and optimize customer engagement. It provides insights into customer distribution across geographic regions, monitors customer growth, and assesses customer retention. Additionally, it aids in predicting future customer base trends, offering valuable information for enhancing customer loyalty and encouraging repeat purchases.

2. Orders Dashboard Page:

   Purpose: The Orders Dashboard offers a comprehensive view of sales performance categorized by different product categories. It evaluates the financial health of Olist by analysing the gross profit margin. Moreover, it delves into order volume trends, identifies any anomalies in sales patterns, and forecasts future revenue streams. This information supports strategic planning and decision-making.

3. Sellers Dashboard Page:

   Purpose: The Sellers Dashboard focuses on evaluating seller distribution and performance metrics. It analyses sales volume, identifies trends in active seller participation, and examines seller performance across various regions and product categories. This dashboard aids in understanding the most significant contributors to the platform and enables data-driven decisions in managing seller relationships.

4. Delivery Dashboard Page:

   Purpose: The Delivery Dashboard serves as a tool to monitor and optimize the efficiency and reliability of the order delivery process. It tracks key metrics related to processing times and delivery periods. By offering insights into delivery performance, this dashboard supports the maintenance of high customer satisfaction levels and helps identify areas for logistical improvement.

5. Reviews Dashboard Page:

   Purpose: The Reviews Dashboard is dedicated to analysing customer feedback and review scores. It assesses the impact of reviews on order performance and correlates customer satisfaction with delivery metrics. This dashboard plays a pivotal role in maintaining product and service quality, as well as gaining a deeper understanding of the customer experience.

6. Key Influencers Dashboard Page:

   Purpose: The Key Influencers Dashboard identifies and analyses the critical factors that influence essential business outcomes, such as order cancellation rates and profitability. By leveraging data, it pinpoints the drivers behind customer behaviour and operational efficiency. This strategic tool provides insights that inform decision-making processes and shape policies to drive positive outcomes.

Each of these dashboard pages is tailor-made to address the unique needs and priorities of various stakeholders within the Olist e-commerce platform. By providing targeted insights, these dashboards empower stakeholders to make informed decisions and take proactive steps to enhance different facets of the business.

Dashboard Page 1 - Customers

Total Customers (KPI - 99.44k):

The Total Customers key performance indicator (KPI) signifies a substantial customer base of approximately 99.44 thousand users. This metric is critical for Olist as it reflects the scale and market reach of the platform. It's crucial for assessing revenue potential and gauging the effectiveness of customer acquisition efforts. To leverage this, Olist should focus on customer retention strategies, personalized marketing campaigns, and loyalty programs to sustain and grow this customer base effectively.

Total Customer States (KPI - 27):

The Total Customer States KPI indicates that Olist has customers spread across 27 different states. This reflects Olist's national presence and ability to cater to customers in various regions. Understanding this geographical distribution is important for localized marketing campaigns, partnerships, and logistics optimization. To further expand its reach, Olist can target states with lower customer counts for growth.

Average Customer Spend (KPI - 3.68k):

The Average Customer Spend KPI reveals that, on average, each customer spends approximately 3.68 thousand. This metric provides insights into customer spending behavior, impacting revenue and profitability. Olist's customers exhibit significant spending potential, suggesting opportunities for revenue growth. To capitalize on this, Olist can analyze the factors influencing customer spending and design strategies to encourage higher purchase amounts.

Customer Retention Ratio (KPI - 3):

The Customer Retention Ratio KPI indicates a customer retention ratio of 3, suggesting a relatively low customer retention rate. Customer retention is vital for long-term success, and this metric emphasizes the need for enhanced retention strategies. Olist can implement loyalty programs, personalized offers, and excellent customer service to improve customer retention and encourage repeat purchases.

Repeat Purchase Customers (KPI - 2979):

The Repeat Purchase Customers KPI signifies that there are 2,979 customers who have made repeat purchases. Repeat customers are valuable as they contribute to sustained revenue. Olist can nurture these relationships with personalized communication, early access to promotions, and exclusive offers to further enhance customer loyalty and increase repeat purchase rates.

Customer Count by State (Bar Chart):

The bar chart depicting Customer Count by State provides a clear view of customer distribution across different states. São Paulo, with the highest customer count, stands out as a significant market. To capitalize on this, Olist can design targeted marketing campaigns and partnerships in high-value states while exploring strategies to expand in promising regions with smaller customer counts.

Customer Count by City (Bar Chart):

The bar chart detailing Customer Count by City highlights concentration in São Paulo and Rio de Janeiro. These cities represent major customer hubs. To leverage this, Olist can enhance its services, address city-specific needs, and collaborate with local businesses to solidify its presence in these lucrative markets.

Customer Count by Year (Donut Chart):

The donut chart displaying Customer Count by Year showcases significant growth from 2016 to 2018. This historical analysis helps Olist understand customer acquisition trends over the years, with 2018 experiencing the highest customer count. Olist can study the factors contributing to this growth and formulate strategies to maintain or accelerate it.

Customer Retention Rate by Customer State (Bar Chart):

The bar chart indicating Customer Retention Rate by Customer State reveals variations in retention rates across states. AC and RO have higher retention rates, indicating successful customer engagement strategies. Olist can analyze best practices in these states and apply them to improve retention rates in others.

Total Sales by Repeat Purchases (Donut Chart):

The donut chart depicting Total Sales by Repeat Purchases emphasizes the significance of repeat customers, contributing significantly to overall sales. Olist can further incentivize repeat purchases with loyalty rewards and targeted promotions to boost revenue.

Customer Count Pattern (Line Chart):

The line chart illustrating Customer Count Patterns reveals both upward and seasonal trends. Understanding these patterns is essential for resource allocation and marketing timing. Olist can prepare for seasonal spikes and adjust marketing efforts to maximize customer engagement and sales.

Forecast Customer Count (Forecast Chart):

The forecast chart predicting an upward trend in customer count for the next two years is optimistic. It enables Olist to anticipate future growth and resource requirements. With continuous growth expected, Olist can plan for expansion, scale operations, and ensure preparedness for increased customer demands.

Overall Strategies for Olist based on Customer Dashboard

Personalized Marketing Campaigns: Olist can use the geographic distribution data from the Customer Dashboard to create highly targeted marketing campaigns. By tailoring promotions, product recommendations, and advertising to specific regions and cities, Olist can improve customer engagement. The Marketing Team takes the lead in implementing these campaigns, ensuring that customers receive personalized offers that resonate with their location and preferences. Personalization increases the likelihood of customers making repeat purchases and becoming loyal to the brand, which aligns with the goals of the CEO to enhance customer retention and satisfaction.

Customer Support Enhancements: With insights from the Customer Dashboard, Olist can prioritize customer support enhancements. The Customer Service Team, leveraging the data on average customer satisfaction and retention rates, can focus on improving customer support and post-purchase experiences. Quick response times to customer inquiries, efficient issue resolution, and proactive communication can boost customer satisfaction and loyalty. The Customer Service Team plays a central role in implementing these improvements and ensuring that customer feedback is effectively incorporated into service enhancements.

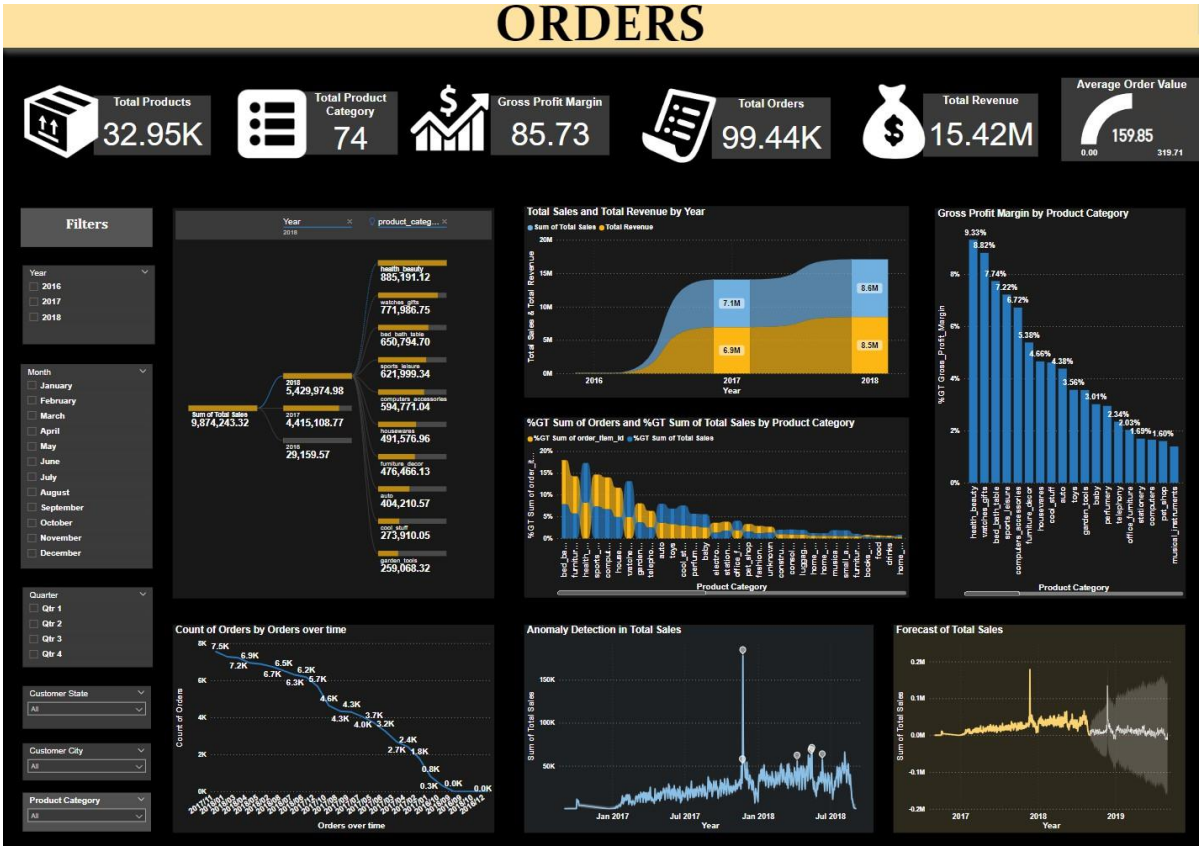
Customer Loyalty Programs: To further boost customer retention, Olist can introduce customer loyalty programs based on insights gained from the dashboard. These programs, overseen by the Marketing Team and endorsed by the CEO, can offer exclusive discounts, rewards, and early access to products for repeat customers. The dashboard will be instrumental in tracking the effectiveness of these loyalty programs, allowing Olist to refine and optimize them over time. The CEO monitors the strategic impact of these programs on overall customer loyalty and business growth.

Expansion into High-Potential Regions: The geographic data in the Customer Dashboard guides Olist's expansion strategy. If certain states or cities show strong customer growth potential, Olist can consider opening new distribution centers or partnering with local sellers to increase its presence in those areas. The CEO, in collaboration with the Operations Team, Sellers of Olist, and the Finance Division, takes the lead in assessing the feasibility and impact of such expansions. The dashboard insights provide valuable input for financial planning and logistics management.

Predictive Analytics for Future Trends: Olist can leverage predictive analytics to forecast future customer behavior, aligning with the expertise of Data Scientists and Analysts. By analyzing historical data trends and patterns, Olist can anticipate changes in customer preferences, seasonal variations, or market trends. The CEO, Marketing Team, and Finance Division rely on these insights to make proactive decisions, adjusting product offerings and marketing strategies to stay ahead of the competition. The predictive analytics capabilities empower Olist to adapt swiftly to evolving market dynamics.

These strategies, based on insights from the Customer Dashboard, allow Olist to strengthen customer relationships, optimize its expansion efforts, improve customer loyalty, and make proactive decisions to drive further growth in the e-commerce market. The collaboration of various stakeholders ensures that the strategies are effectively implemented and aligned with Olist's overarching goals.

Dashboard Page 2 - Orders



Total Products (KPI):

The "Total Products" KPI indicates that Olist offers a diverse range of products, amounting to 32.95 thousand. This metric is vital for Olist's product management and marketing teams as it highlights the breadth of offerings. Olist can leverage this information to identify opportunities for expanding its product catalog further and enhancing its product category coverage.

Total Product Category (KPI):

The "Total Product Category" KPI, with a count of 74, signifies that Olist operates within a variety of product categories. This diversity is valuable for attracting a wide range of customers with different preferences. Olist can focus on marketing strategies that highlight its extensive product category offerings, potentially targeting specific demographics for each category to maximize customer engagement and sales.

Gross Profit Margin (KPI):

The "Gross Profit Margin" KPI at 85.73% demonstrates the profitability of Olist's operations. A high gross profit margin indicates that Olist is efficiently managing its costs and generating substantial profit from sales. Olist can use this insight to continue focusing on cost-effective operations, potentially exploring opportunities for further cost reduction or price optimization to maintain healthy profit margins.

Total Orders (KPI):

The "Total Orders" KPI indicates that Olist has processed a substantial volume of orders, totaling 99.44 thousand. This metric reflects the scale of Olist's e-commerce platform. Olist can utilize this information to assess its operational efficiency in handling orders and delivery, ensuring that it can meet customer demand effectively.

Total Revenue (KPI):

The "Total Revenue" KPI, with a value of 15.42 million, represents the total income generated by Olist from its sales activities. This KPI is crucial for Olist's financial evaluation and growth strategy. Olist can analyze this metric to assess its revenue growth over time, identify revenue sources, and make informed decisions about future investments and expansion.

Average Order Value (KPI):

The "Average Order Value" KPI, with an average of 159.85, signifies the average amount spent by customers per order. Understanding this metric allows Olist to evaluate customer purchasing behavior and pricing strategies. Olist can work on increasing the average order value through tactics like upselling, bundling, or offering discounts for larger orders, ultimately driving higher revenue per customer transaction.

Total Sales by Product Category for the Year 2018:

The chart depicting total sales by product category for the year 2018 provides a crucial insight into Olist's revenue distribution among various product categories. Health/Beauty, Watches/Gifts, and Bed Bath/Table appear as the top-performing categories in terms of sales revenue. This information is vital for Olist as it helps identify product categories with the highest revenue potential. Olist can allocate more resources, marketing efforts, and inventory to these categories to maximize profitability.

Total Sales and Total Revenue by Year:

The representation of total sales and total revenue over three years (2016-2018) offers a historical perspective of Olist's financial performance. It is essential for assessing the company's growth trajectory. The consistency in total sales and total revenue between 2017 and 2018 indicates a stabilization period. Olist can delve deeper to understand the reasons behind this stability, potentially exploring opportunities to reignite growth in subsequent years or invest in other aspects of the business.

%GT Sum of Orders and %GT Sum of Total Sales by Product Category:

This graph highlights the variation in contribution between product categories in terms of order count and total sales. Certain product categories contribute a larger percentage to the total sales value compared to their contribution to the number of orders. This suggests that these categories have higher-priced items or that customers tend to spend more per order in these categories. Conversely, some categories may have a higher percentage of orders but a lower percentage of total sales. This could mean that although these categories are popular in terms of the number of items sold, the individual items may be lower-priced, resulting in a smaller contribution to total sales value. The importance of this chart lies in understanding the relationship between popularity and revenue generation for different product categories. Olist can utilize this insight to tailor its marketing strategies and pricing models. For instance,

categories with a high percentage of orders but a low percentage of sales might benefit from upselling or cross-selling techniques, while high-performing categories may warrant additional promotion to sustain and enhance profitability.

Gross Profit Margin by Product Category:

The gross profit margin by product category provides insight into the profitability of different product categories. It's crucial for Olist to identify which categories are delivering higher profit margins, as this information guides inventory management and pricing strategies. Olist can consider promoting or expanding product lines in categories with favorable profit margins to boost overall profitability.

Count of Orders by Orders over Time:

This line chart depicting the count of orders over time reveals trends in order volume. The fluctuations in order counts at different points in time indicate potential seasonality or changes in customer behavior. Olist can utilize this information to plan inventory, staffing, and marketing efforts accordingly. For instance, during peak order periods, additional resources can be allocated to ensure efficient order processing and customer satisfaction.

Anomaly Detection in Total Sales:

The anomaly detection chart identifies unusual patterns or outliers in total sales data. Identifying these anomalies can help Olist pinpoint irregularities in sales, such as unexpected spikes or drops. By making use of the function in PowerBi to see which factors contributing to the anomaly, there wasn’t any successful findings. These anomalies may be indicative of external factors or internal operational issues. Olist can use this information to investigate and address the root causes of such anomalies, ensuring business stability and customer satisfaction.

Forecast of Total Sales:

The forecast of total sales provides insights into future sales trends. Olist can use this forecast to make informed decisions about resource allocation, inventory management, and marketing campaigns. The November peaks in sales observed in both 2018 and 2019 suggest a recurring pattern that Olist can leverage for promotional activities during this period.

Overall Strategies for Olist based on Order Dashboard

Product Diversification and Expansion: Olist's Product Dashboard reveals that the platform offers a wide range of products across 74 categories. Olist can capitalize on this diversity by continually expanding its product catalog. By identifying product categories that have shown consistent growth and profitability, Olist can explore partnerships with suppliers or manufacturers to introduce new products. The Marketing Team, in conjunction with the CEO and Sellers of Olist, can play a pivotal role in assessing market demand and supplier negotiations to expand the product range effectively.

Category-Specific Marketing Campaigns: The Product Dashboard provides insights into the performance of different product categories. Olist can tailor its marketing campaigns to focus on specific categories that demonstrate high demand and profitability. The Marketing Team can design targeted campaigns to highlight these categories, leveraging insights gained from the dashboard. By promoting popular product categories, Olist can enhance customer engagement and boost sales within those segments.

Price Optimization and Upselling: The Product Dashboard, along with the Average Order Value (AOV) metric, offers valuable information about customer purchasing behavior. Olist can use this data to optimize pricing strategies. For instance, Olist can implement dynamic pricing algorithms to adjust prices based on demand and supply dynamics. Additionally, the Sales and Marketing teams can employ upselling and bundling techniques to encourage customers to purchase complementary or higher-value products, increasing the AOV.

Inventory Management and Demand Forecasting: The Total Products and Total Orders KPIs provide critical insights into inventory management and demand forecasting. Olist can employ advanced inventory management systems and predictive analytics to optimize inventory levels. By aligning supply with demand trends, Olist can minimize overstocking and understocking issues, improving operational efficiency.

Seasonal Product Offerings: The Product Dashboard may reveal seasonal trends and product preferences. Olist can proactively adjust its product offerings to align with seasonal demand. For example, if certain categories experience higher sales during specific months, Olist can

plan seasonal promotions and optimize inventory accordingly. This approach allows Olist to capture seasonal spikes in demand effectively.

These strategies, rooted in insights from the Product Dashboard, empower Olist to make data-driven decisions that drive further growth. The collaboration of various stakeholders, including the Marketing Team, Sales Team, and the CEO, ensures the effective implementation of these strategies to optimize product offerings, pricing, and inventory management. Ultimately, these actions lead to improved customer satisfaction, increased sales, and sustainable growth in the competitive e-commerce market.

Dashboard Page 3 - Sellers

Total Sellers (KPI) - 3095:

The Total Sellers KPI signifies the sheer scale of Olist's seller network, boasting a substantial 3095 sellers. This number reflects the robust presence of sellers on the platform, showcasing the diversity of products and services offered to customers. The significance lies in the breadth of choices available to consumers, contributing to Olist's competitive edge in the e-commerce

marketplace. This KPI's insights underscore the platform's ability to attract and onboard sellers effectively, further emphasizing the need to maintain a healthy seller ecosystem.

Total Sellers State (KPI) - 23:

The Total Sellers State KPI reveals that Olist operates with sellers from 23 different states. This geographic diversity highlights Olist's nationwide reach, catering to a wide array of customers across regions. It is essential in terms of distribution and logistics, ensuring efficient delivery and fulfillment. To leverage this insight, Olist can implement strategies that focus on strengthening its presence in states with fewer sellers, encouraging seller recruitment and market penetration in these areas.

Average Seller/State (KPI) - 135:

The Average Seller/State KPI (135) provides valuable insights into the distribution of sellers across states. It indicates that, on average, there are approximately 135 sellers per state. This metric is crucial for assessing the concentration of seller activity in different regions. It enables Olist to identify areas with both high and low seller densities, allowing for tailored strategies. For states with low seller representation, recruitment efforts and localized marketing campaigns can be prioritized to bolster seller engagement.

Average Order/Seller (KPI) - 32:

The Average Order/Seller KPI (32) underscores the effectiveness of Olist's sellers in generating orders. On average, each seller contributes to 32 orders, reflecting a healthy level of seller activity. This metric is pivotal for evaluating seller performance and the potential for growth. Olist can collaborate with sellers to enhance their order-generating capabilities further. Providing training, marketing support, and tools for optimizing their operations can help sellers increase their average order count, benefiting both sellers and Olist.

Active Sellers (KPI) - 2970:

The Active Sellers KPI indicates that 2970 sellers are currently active on the Olist platform. This metric is of paramount importance as it reflects the real-time engagement of sellers. Maintaining a high number of active sellers is essential for a vibrant and dynamic marketplace. Olist can employ strategies to retain and incentivize active sellers, such as performance-based rewards, seller support, and efficient dispute resolution mechanisms.

Count of Sellers by State and City:

The "Count of Sellers by State" and "Count of Sellers by City" bar charts provide essential insights into the geographical distribution of sellers on the Olist platform. São Paulo (SP) stands out as the state with the highest number of sellers, followed by Paraná (PR) and Minas Gerais (MG). In terms of cities, São Paulo, Curitiba, and Rio de Janeiro have the highest seller counts. These insights are crucial for Olist as they help identify regions where seller activity is concentrated and regions with growth potential. Olist can focus on expanding its seller base in regions with lower representation to ensure a broader reach.

Comparison of Seller State, Count of Sellers, Order Items, and Total Sales:

This matrix chart provides a comprehensive overview of seller performance in different states. São Paulo (SP) leads in all aspects, with the highest number of sellers, order items, and total sales. This insight is vital for Olist to understand which states are driving the most significant sales and where seller activity is particularly strong. To capitalize on this, Olist can consider implementing targeted strategies to support and incentivize sellers in these high-performing states, such as offering additional marketing support, training, or promotional opportunities.

Total Sales by Top 10 Sellers:

The "Total Sales by Top 10 Sellers" chart highlights the contribution of the top sellers to Olist's overall sales volume. It reveals that a small number of top sellers significantly impact total sales, with the leading seller generating approximately $250K in sales. This concentration of sales among a select few sellers is a common occurrence in marketplaces. To ensure continued growth, Olist can consider implementing a seller diversification strategy. This involves actively recruiting and supporting new sellers to reduce reliance on a small group of top performers. By nurturing a broader pool of sellers, Olist can reduce risk and promote long-term sustainability.

Active Sellers by Year and Month:

The line graph showing the trend in active sellers over time is critical for understanding the platform's growth trajectory. It demonstrates an overall upward trend in the number of active sellers from January 2017 to mid-2018, with some fluctuations. The dotted line, likely representing a forecast, indicates that Olist expects this growth to continue. This insight is pivotal for planning resource allocation and expansion efforts. To sustain this growth, Olist can invest in seller support and training programs to ensure that new sellers have a positive

experience and stay active on the platform. Additionally, marketing initiatives can be designed to attract and retain sellers.

%GT Count of Sellers and %GT Total Sales by Product Category:
This stacked bar chart highlights the percentage contribution of sellers and total sales by product category. It reveals that certain categories have a high count of sellers but may not contribute equivalently to total sales, indicating variations in product category competitiveness and pricing. Olist can utilize this insight to fine-tune its seller recruitment efforts by focusing on categories with a higher potential for revenue generation. Additionally, Olist can consider implementing strategies to increase sales in categories with a high seller count but lower total sales, such as targeted marketing campaigns or price optimization.

Forecast of Seller Count:
The line graph depicting the forecast of seller count shows a steady increase in the number of sellers over time, with a notable dip around the end of the timeline. This dip could be due to seasonal factors or other external influences. The forecast then shows a recovery phase, indicating an intention to regain growth. This insight is essential for Olist's resource planning and strategy development. To address the dip and ensure a continuous increase in seller count, Olist can conduct a thorough analysis to identify the reasons behind the decline. Strategies to recover and sustain growth can include improved seller onboarding processes, enhanced seller support, and targeted recruitment efforts in regions or categories with growth potential.

Overall Strategies for Olist based on Sellers Dashboard

Seller Recruitment and Onboarding: Olist can leverage the knowledge of its extensive seller network to refine its recruitment and onboarding processes. By recognizing states with lower seller representation, Olist can focus its recruitment efforts on these regions. This approach involves partnering with local businesses, offering incentives, and simplifying the onboarding process to attract more sellers. The aim is to increase the Total Sellers KPI and foster a vibrant, diverse seller community.

Localized Marketing Campaigns: To enhance seller engagement and stimulate growth in specific regions, Olist can deploy localized marketing campaigns. The Marketing Team can

lead these initiatives, tailoring promotions and incentives to cater to the unique needs and preferences of sellers in different states and cities. The goal is to empower sellers with the tools and knowledge needed to thrive on the platform, ultimately increasing Average Order/Seller and Active Sellers KPIs.

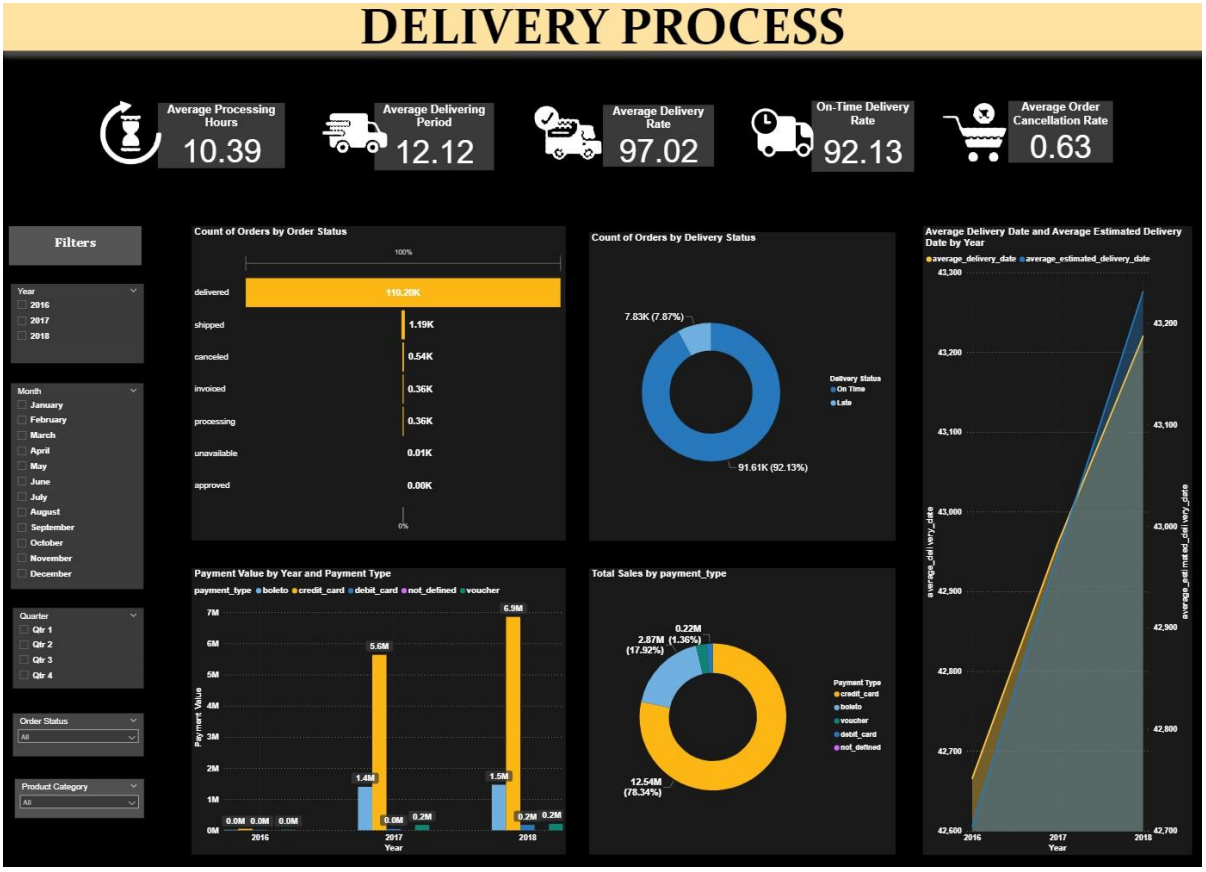
Performance Optimization Programs: Olist can collaborate closely with its top-performing sellers, especially those in states like São Paulo, to establish performance optimization programs. These programs can involve training sessions, access to data-driven insights, and resources to help sellers increase their Average Order/Seller and contribute to higher Total Sales. The Operations Team can play a pivotal role in implementing these programs, fostering seller growth and loyalty.

Geographic Expansion Strategy: Building on insights from the Count of Sellers by State and City charts, Olist can strategically expand its presence into regions with untapped potential. By identifying states and cities with high Average Seller/State ratios, Olist can consider opening new distribution centers, partnering with local businesses, and tailoring its services to meet the needs of these areas. The CEO, Operations Team, and Finance Division can collaborate to assess the feasibility of such expansions, aligning with the company's growth objectives.

Seller Support and Training: Olist can invest in robust seller support and training programs. The insights from the Seller Dashboard, including Total Sellers and Average Order/Seller, indicate the importance of ensuring that sellers receive the necessary support to succeed. The Customer Service Team can lead these efforts, providing responsive assistance, resolving seller inquiries, and offering resources that enhance their selling experience. By fostering seller success, Olist can maintain a high count of Active Sellers and stimulate growth.

In conclusion, the Seller Dashboard provides Olist with essential insights into its seller ecosystem. To drive further growth, Olist can capitalize on these insights by implementing seller-centric strategies. These strategies encompass seller recruitment, localized marketing, performance optimization, geographic expansion, and robust seller support. By nurturing a thriving seller community and fostering their success, Olist can enhance its competitive edge, increase sales, and continue to excel in the e-commerce market.

Dashboard Page 4 – Delivery Process



Average Processing Hours (KPI): The Average Processing Hours metric provides insight into the efficiency of Olist's order processing operations. It indicates that, on average, it takes approximately 10.39 hours for orders to be processed. This metric is crucial for Olist as it directly impacts customer satisfaction and can influence repeat business. Reducing processing times can lead to quicker order fulfillment and improved customer experiences.

Average Delivering Period (KPI): The Average Delivering Period metric, with an average of 12.12 days, reveals the time it takes for orders to be delivered to customers. Timely delivery is a critical factor in e-commerce, and this metric indicates that Olist is generally meeting delivery expectations. However, there is room for improvement, and further optimization can enhance customer satisfaction and loyalty.

Average Successful Delivery Rate: With an impressive average successful delivery rate of 97.02%, Olist demonstrates its commitment to delivering orders accurately and efficiently.

This high success rate is a positive indicator of customer satisfaction. Olist should maintain this level of service to ensure continued customer trust and loyalty.

On-Time Delivery Rate (KPI): The On-Time Delivery Rate, at 92.13%, signifies that the majority of orders are delivered punctually. Timely deliveries are crucial for customer satisfaction, and this metric highlights Olist's strong performance in this aspect. Olist should continue to prioritize on-time deliveries to meet customer expectations consistently.

Average Order Cancellation Rate (KPI): The Average Order Cancellation Rate, standing at 0.63%, indicates that a very small percentage of orders are canceled. Low order cancellations are a positive sign, as they reduce customer dissatisfaction and operational disruptions. Olist should maintain efficient order management processes to minimize cancellations further.

Count of Orders by Order Status: This bar chart provides a breakdown of orders by status. The high count of "Delivered" orders (110.20K) indicates successful order fulfillment. However, the presence of other order statuses like "Shipped" and "Canceled" suggests that some orders may face delays or issues. Olist can focus on improving order tracking and communication to reduce the number of orders in non-delivered statuses, ultimately enhancing the customer experience.

Count of Orders by Delivery Status: The "On Time" delivery rate of 92.13% is commendable, but the presence of "Late" deliveries (7.87%) highlights areas for improvement. Olist should analyze the reasons behind late deliveries and implement measures to further improve on-time performance. Maintaining a high on-time delivery rate is crucial for customer satisfaction and retention.

Payment Value by Year and Payment Type: This bar chart shows payment values by payment type over two years. Credit card payments dominate, indicating customer preference. Olist can continue to prioritize credit card payment processing efficiency while ensuring seamless payment experiences for other methods, such as Boleto and Voucher.

Total Sales by Payment Type: The "Total Sales by Payment Type" donut chart highlights that credit card payments contribute significantly (78.34%) to Olist's total sales. This insight emphasizes the importance of optimizing payment processing for credit card transactions. Olist

can also consider incentives or promotions to encourage the use of other payment methods, thus reducing reliance on a single payment type.

Average Delivery Date and Average Estimated Delivery Date by Year: The convergence of the average delivery date and the average estimated delivery date over the years indicates an improvement in delivery accuracy or estimation. This aligns with Olist's commitment to enhancing the customer experience. Olist should continue refining its delivery processes and maintaining accurate estimated delivery times to meet customer expectations consistently.

Overall Strategies for Olist based on Delivery Dashboard

Optimize Order Processing Efficiency: Olist should focus on reducing the average processing hours, which currently stand at 10.39 hours. Streamlining internal processes, improving communication between teams, and implementing automation where applicable can help expedite order processing. By doing so, Olist can ensure that orders are prepared for shipment more rapidly, leading to quicker delivery times and improved customer satisfaction.

Continuous Improvement of On-Time Deliveries: While the on-time delivery rate is at 92.13%, there is room for improvement. To consistently meet customer expectations, Olist can implement real-time tracking and notifications, allowing customers to monitor their deliveries. Additionally, proactive communication with customers regarding potential delays can help manage expectations and reduce late deliveries further.

Reduce Order Cancellations: With an average order cancellation rate of 0.63%, Olist is performing well. However, Olist should continue to monitor and address the root causes of order cancellations. Implementing proactive measures, such as robust inventory management and effective order tracking, can further minimize cancellations, ensuring a smoother order fulfillment process.

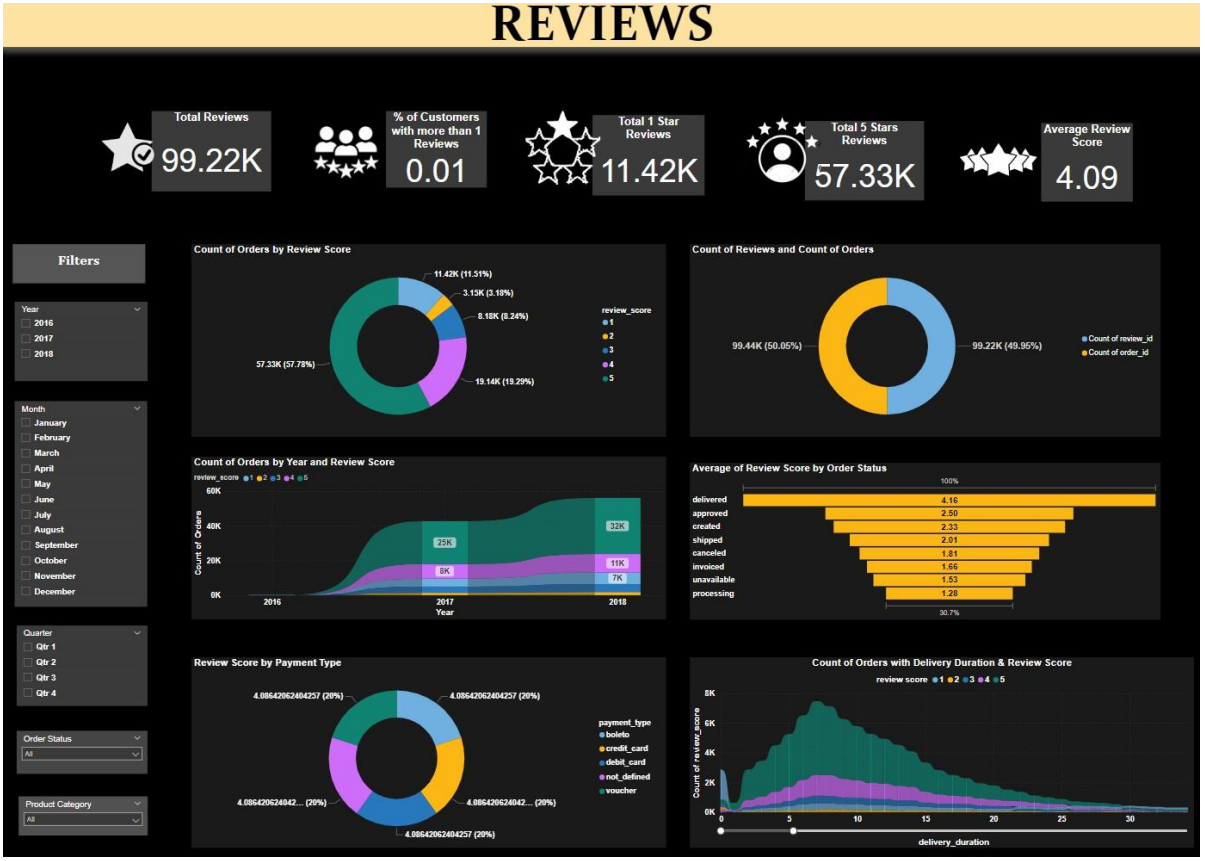
Payment Method Optimization: Given that credit card payments contribute significantly to Olist's revenue, Olist should continue to prioritize payment processing efficiency for credit card transactions. Furthermore, while credit card payments dominate, Olist can explore strategies to encourage the use of other payment methods, such as Boleto and Voucher. Offering incentives

or discounts for using these methods can help diversify payment options and reduce reliance on a single payment type.

Delivery Date Accuracy: The convergence of average delivery date and estimated delivery date indicates improved delivery accuracy or estimation. Olist should maintain its focus on providing customers with accurate delivery estimates and strive to ensure that actual delivery times align closely with estimated delivery times. This will contribute to higher customer satisfaction and trust.

In conclusion, Olist can capitalize on the insights from the Delivery Dashboard by implementing strategies that prioritize efficiency, accuracy, and customer satisfaction in the delivery process. By optimizing order processing, shortening delivery times, maintaining delivery success rates, reducing cancellations, and fine-tuning payment processing, Olist can enhance the overall customer experience and drive further growth in the competitive e-commerce market. These strategies should be executed collaboratively across various teams within Olist to ensure successful implementation and alignment with the company's overarching goals.

Dashboard Page 5 - Reviews



Total Reviews (KPI - 99.22k):

The Total Reviews key performance indicator (KPI) reflects a substantial volume of reviews, with approximately 99.22 thousand reviews generated by customers. This metric is of utmost importance for Olist as it signifies a high level of customer engagement and feedback. Reviews play a pivotal role in influencing potential buyers' decisions and building trust in the platform. Olist should continue to encourage customers to provide reviews and leverage this valuable feedback for product improvements and marketing.

% of Customers with more than 1 Review (KPI - 0.01):

The % of Customers with more than 1 Review KPI indicates that only a small fraction of customers (0.01%) have submitted more than one review. While this metric is relatively low, it presents an opportunity for Olist to further engage customers in leaving multiple reviews. By incentivizing and recognizing customers who provide ongoing feedback, Olist can foster a community of active reviewers, enhancing the reliability of product ratings and reviews.

Total 1 Star Reviews (KPI - 11.42k):

The Total 1 Star Reviews KPI highlights that there are 11.42 thousand 1-star reviews. These reviews represent dissatisfied customers and require immediate attention. Olist should prioritize addressing the concerns raised in these reviews, identifying root causes of dissatisfaction, and implementing corrective actions. Turning negative experiences into positive ones can significantly impact customer retention and reputation.

Total 5 Stars Reviews (KPI - 57.33k):

The Total 5 Stars Reviews KPI reveals a substantial number of 5-star reviews, totaling 57.33 thousand. This indicates a strong presence of highly satisfied customers who appreciate Olist's products and services. Olist can leverage these positive reviews by showcasing them in marketing campaigns, product listings, and social media to build trust and attract new customers.

Average Review Score (KPI - 4.09):

The Average Review Score KPI indicates an overall positive average review score of 4.09. This metric reflects a generally satisfied customer base. Maintaining a high average review score is essential for Olist's reputation and competitiveness. Olist should strive to consistently provide excellent customer experiences to sustain this positive rating.

Count of Orders by Review Score:

The donut chart displaying the Count of Orders by Review Score illustrates the distribution of review scores provided by customers. It underscores that a significant proportion of customers have provided 4- and 5-star reviews, indicating overall satisfaction. Olist should focus on preserving and enhancing this positive sentiment.

Count of Reviews and Count of Orders:

This chart compares the total number of reviews and orders, demonstrating a near-equivalent count. This balance signifies that customers actively provide feedback, and Olist maintains transparency by openly displaying reviews. Olist can continue to encourage customers to submit reviews and use this data to refine its services and products.

Count of Orders by Year and Review Score:

The stacked area chart depicting Count of Orders by Year and Review Score offers insights into the distribution of review scores over different years. It highlights that the majority of

orders receive high review scores (4 or 5 stars) consistently across the years, with a slight increase in 5-star reviews over time. Olist can learn from past trends and work to maintain or improve customer satisfaction levels to drive future growth.

Average Review Score by Order Status:
This bar chart provides the average review scores associated with different order statuses. It emphasizes the importance of successfully delivering orders, as delivered orders receive the highest average review score (4.16). Olist should prioritize order fulfillment to ensure positive customer experiences and maintain high review scores.

Review Score by Payment Type:
The donut chart illustrating Review Score by Payment Type shows uniformity, with all payment types having nearly identical average review scores (around 4.09). This suggests that Olist maintains consistent service quality across various payment methods, fostering trust and satisfaction among customers.

Count of Orders with Delivery Duration & Review Score:
The histogram presenting the Count of Orders with Delivery Duration & Review Score demonstrates a correlation between shorter delivery durations and higher review scores. Olist should prioritize efficient and timely delivery to consistently achieve high customer satisfaction and positive reviews.

Overall Strategies for Olist based on Reviews Dashboard

Personalized Review Engagement: Olist can harness the wealth of customer reviews to personalize engagement with its user base. Utilizing data from the Review Dashboard, Olist can tailor its communication and interactions with customers based on their review history. Customers who consistently provide positive reviews could receive exclusive offers, early access to new products, or invitations to join loyalty programs. Conversely, for customers who have expressed dissatisfaction through their reviews, Olist can proactively reach out to address their concerns, demonstrate commitment to improvement, and convert negative experiences into positive ones. This personalized approach to review engagement not only enhances customer satisfaction but also demonstrates Olist's commitment to continuous improvement.

Quality Control and Improvement: The Total 1 Star Reviews KPI highlights areas where Olist can focus on quality control and product improvement. By analyzing the root causes of these negative reviews, Olist can identify patterns and common issues affecting customer satisfaction. The Quality Control and Product Development teams can collaborate to address these concerns promptly, ensuring that product quality and customer experiences are consistently high. This approach not only minimizes negative feedback but also positions Olist as a brand committed to excellence.

Leveraging Positive Reviews in Marketing: Olist can strategically incorporate the substantial number of 5-star reviews from the Total 5 Stars Reviews KPI into its marketing campaigns. Highlighting these positive endorsements from satisfied customers can build trust and credibility among potential buyers. Sharing specific customer success stories and experiences can create an emotional connection with the audience, ultimately driving sales and brand loyalty.

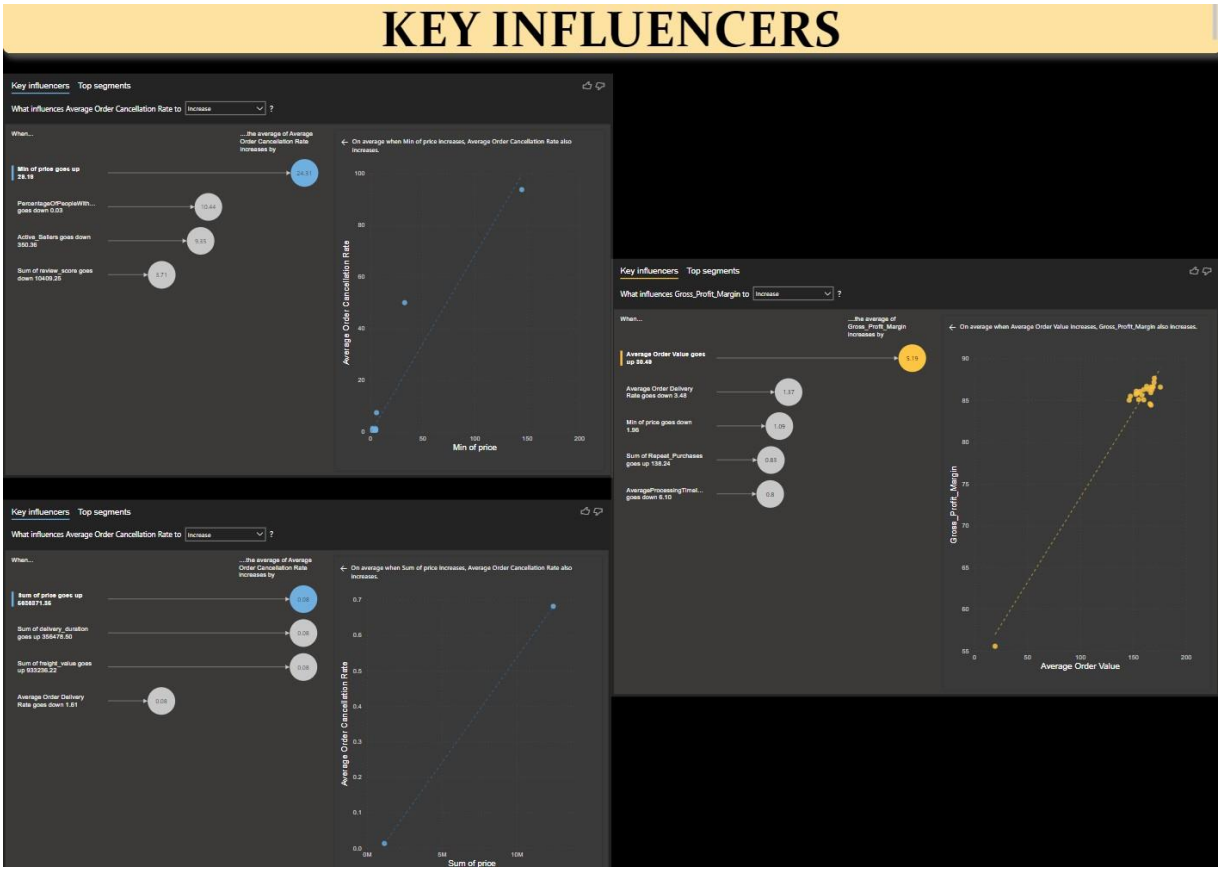
Continuous Monitoring and Improvement of Review Scores: Maintaining an Average Review Score of 4.09 is crucial for Olist's reputation and competitiveness. To achieve this, Olist should implement continuous monitoring of review scores and swiftly address any decline. The Customer Support and Product Teams can work collaboratively to investigate and rectify issues raised in negative reviews. Additionally, Olist can encourage customers to leave reviews by implementing incentives, such as discounts or entry into exclusive giveaways. By staying proactive in maintaining high review scores, Olist can differentiate itself in the market and ensure a positive customer perception.

Timely Delivery and Customer Feedback: The correlation observed in the Count of Orders with Delivery Duration & Review Score graph between shorter delivery durations and higher review scores is a crucial finding. Olist should prioritize timely delivery as it directly influences customer satisfaction. Operations and logistics teams should work in tandem to optimize delivery routes, reduce transit times, and provide accurate estimated delivery dates. Additionally, Olist should actively solicit customer feedback on the delivery experience, seeking suggestions for further improvements.

In conclusion, the Review Dashboard offers valuable insights into customer sentiments and perceptions of Olist's products and services. By capitalizing on these findings, Olist can personalize customer engagement, enhance product recommendations, prioritize quality

control and improvement, leverage positive reviews in marketing efforts, and continuously monitor and improve review scores. These strategies not only contribute to increased customer satisfaction but also drive further growth and reinforce Olist's position as a customer-centric e-commerce platform. The collaborative efforts of various teams within Olist ensure that these strategies align with the company's overarching goals.

Dashboard Page 6 – Key Influencers



The Key Influencers Dashboard offers Olist invaluable insights into the factors influencing order cancellations and gross profit margins. By identifying critical variables that impact these key business metrics, Olist can make informed strategic decisions to reduce order cancellations, improve profitability, and enhance overall operational efficiency. This dashboard empowers Olist to implement targeted interventions in areas such as pricing, delivery, customer experience, and product offerings. By leveraging the actionable insights from the Key Influencers Dashboard, Olist can optimize its business processes, strengthen customer relationships, and drive sustainable growth in the competitive e-commerce landscape.

Key Influencers on Order Cancellation:

Min of price goes up (29.19): The increase in the minimum product price has a substantial impact on order cancellations, contributing to a 24.31% rise in the average order cancellation rate. This suggests that customers may be highly price-sensitive, and even a slight increase in product prices can deter them from completing their orders. To address this issue, Olist should carefully analyze its pricing strategy, considering competitive pricing, transparent pricing information, or the introduction of tiered pricing to cater to different customer segments. By ensuring that prices align with customer expectations, Olist can reduce the risk of order cancellations due to pricing concerns.

PercentageOfPeopleWith... goes down (0.03): Although the exact nature of this metric is unspecified, a minor decrease in this variable is linked to a small increase in order cancellations. To address this issue effectively, Olist needs to identify and rectify the specific factors contributing to this decline. Potential areas to investigate might include website usability, payment options, or other aspects of the customer experience. By ensuring a seamless and user-friendly platform, Olist can minimize order cancellations associated with this variable.

Active_Sellers goes down (350.36): A significant reduction in active sellers is associated with a slight increase in order cancellations. This finding suggests that having a diverse pool of sellers may contribute to a lower likelihood of cancellations. Olist should focus on strategies to attract and retain sellers, such as providing comprehensive seller support, offering resources for seller success, and implementing incentives to maintain a thriving marketplace ecosystem. Encouraging seller growth can indirectly lead to reduced order cancellations.

Sum of review_score goes down (10409.25): A considerable decrease in the cumulative review scores is linked to a minor increase in order cancellations. Poor reviews can negatively affect order retention, highlighting the importance of maintaining high customer satisfaction levels. Olist should prioritize continuous improvement in customer service and product quality, addressing customer concerns promptly, and implementing measures to encourage positive reviews. By doing so, Olist can mitigate the impact of poor reviews on order cancellations.

Sum of price goes up (5636871.35): Despite a significant increase in the total sum of product prices, there is only a minor effect on increasing order cancellations. This suggests that the overall price level may not be a significant influencer in cancellations. However, Olist should

ensure that its pricing remains competitive and aligns with market standards to maintain customer trust and satisfaction.

Sum of delivery_duration goes up (356478.50): An increase in the total delivery duration correlates with a slight rise in cancellations, indicating that delivery times play a role in order cancellations. To mitigate this issue, Olist should focus on optimizing its logistics and supply chain processes to reduce delivery times. By offering timely deliveries and enhancing the customer experience, Olist can minimize cancellations attributed to prolonged delivery durations.

Sum of freight_value goes up (933236.22): Higher freight values have a small impact on increasing cancellations, suggesting that elevated shipping costs could discourage customers from proceeding with their orders. Olist should explore options to optimize shipping costs or consider offering incentives such as free or discounted shipping to offset these costs. By reducing shipping expenses for customers, Olist can lower the barrier to completing orders and decrease cancellations.

Average Order Delivery Rate goes down (1.61): A decrease in the average order delivery rate has a marginal effect on increasing cancellations. Slower delivery speeds might lead to more cancellations. To address this, Olist should prioritize efficient and timely order fulfillment. This can be achieved by partnering with reliable shipping providers, expanding its logistics network, and implementing strategies to expedite order processing. Ensuring quick and reliable delivery services can enhance customer satisfaction and reduce cancellations due to delivery delays.

Key Influencers on Gross Profit Margin:

Average Order Value goes up 30.49: A higher average order value significantly contributes to improved profit margins, with an increase of 30.49 resulting in a 5.19% higher average gross profit margin. This finding suggests that encouraging customers to increase their order sizes can have a substantial impact on profitability. Olist can employ various strategies, such as bundling related products, offering volume discounts, or promoting higher-priced items, to boost average order values and enhance profit margins.

Average Order Delivery Rate goes down 3.48: A decrease in the average order delivery rate, indicating faster delivery times, is associated with a 1.37% increase in the gross profit margin. This implies that efficient and timely delivery correlates with better profit margins. Olist should focus on optimizing its logistics and delivery processes to provide faster delivery options to customers. This not only enhances customer satisfaction but also positively impacts profitability.

Min of price goes down 1.96: A reduction in the minimum product price leads to a 1.09% increase in the gross profit margin. Lower minimum prices may encourage customers to purchase higher-margin items. Olist can explore pricing strategies that balance affordability with profitability to maximize margins. By offering competitive prices while ensuring profitability, Olist can drive increased sales of higher-margin products.

Sum of Repeat Purchases goes up 138.24: An increase in the sum of repeat purchases correlates with an 0.83% higher gross profit margin. This suggests that repeat customers may either purchase more profitable items or, in general, generate more profitable business. Olist should implement customer retention strategies, such as loyalty programs, personalized offers, and exceptional customer service, to encourage repeat business and enhance overall profitability.

Average Processing Time goes down 6.10: A decrease in the average processing time is associated with a 0.8% increase in the gross profit margin. Efficient processing times can lead to cost savings and improved customer satisfaction, ultimately boosting margins. Olist should streamline its order processing workflows, automate manual processes where possible, and invest in technology to reduce processing times. This not only increases efficiency but also positively impacts profitability.

In conclusion, Olist can enhance its profitability by strategically addressing the key influencers identified in the analysis. These strategies require collaboration across various departments, including pricing, logistics, customer service, and marketing. Furthermore, Olist should engage with its shareholders to ensure alignment and commitment to implementing these strategies effectively, ultimately driving sustainable growth and improved financial performance.

Continuous Improvement Strategies

Continuous improvement strategies for Olist's business solutions based on insights from all six dashboard pages.

1. Customer Dashboard:

Continuous Improvement Strategy: Olist should embark on a customer-centric journey by capitalizing on the geographic distribution data. This entails creating highly targeted marketing campaigns, personalized product recommendations, and tailored advertising for specific regions and cities. Geographically tailored strategies resonate better with customers, increasing engagement and satisfaction. Personalized campaigns boost the likelihood of repeat purchases and customer loyalty, aligning with the CEO's goal of enhancing customer retention and satisfaction.

2. Seller Dashboard:

Continuous Improvement Strategy: Olist can leverage the geographical distribution data of sellers to expand strategically into regions with growth potential. It should also encourage diversification within the seller base and provide comprehensive support to new sellers. Diversification mitigates risk, reducing dependence on a small pool of sellers. Strategic expansion exploits untapped markets, fortifying the overall seller ecosystem. Predictive analytics empowers Olist to anticipate market trends, proactively adapting strategies and making informed decisions for sustainable growth.

3. Delivery Dashboard:

Continuous Improvement Strategy: Olist should focus on optimizing order processing and delivery times to minimize average processing hours and delivery durations. Enhanced communication with customers regarding expected delivery times is paramount to managing expectations and reducing order cancellations. processes lead to faster and more reliable deliveries, elevating customer satisfaction and loyalty. Effective communication is key to aligning customer expectations and minimizing order cancellations, safeguarding the brand's reputation.

4. Order Dashboard:

Continuous Improvement Strategy: Olist can further enhance the order management process by optimizing order statuses, ensuring timely processing, and tracking delivery status with precision. This will reduce processing times and improve order visibility. Efficient order management streamlines operations, minimizing delays and cancellations. Improved visibility ensures customers are well-informed about their order status, enhancing their experience.

5. Review Dashboard:

Continuous Improvement Strategy: Olist must actively encourage customers to leave reviews and systematically address their concerns or experiences. Timely responses to 1-star reviews are essential. Positive reviews build trust and influence purchasing decisions. Attending to negative reviews demonstrates a commitment to customer satisfaction and product quality, potentially converting detractors into loyal customers.

6. Key Influencers Dashboard:

Continuous Improvement Strategy: Utilizing insights from key influencers, Olist should refine pricing strategies, enhance delivery efficiency, and actively encourage repeat purchases. This entails adjusting prices based on identified influencers, reducing processing times, and fostering relationships with repeat customers who tend to place higher-value orders. Pricing adjustments can significantly impact sales volume, making it essential to optimize pricing based on influential variables. Efficiency improvements reduce operational costs and enhance overall service quality, while repeat customers often spend more, ultimately boosting profit margins.

Olist's business solutions stand to benefit immensely from these continuous improvement strategies, all rooted in data-driven insights. By embracing these strategies:

- Olist can truly embrace a customer-centric approach, deepening relationships and bolstering loyalty.

- Diversification and strategic expansion can mitigate risks and expand the seller ecosystem.
- Streamlined processes can elevate customer satisfaction and loyalty while reducing cancellations.
- Proactive review management builds trust and demonstrates a commitment to quality.
- Key influencer insights enable targeted strategies for profit margin optimization.

To ensure the effective implementation of these strategies, Olist must foster collaboration among different stakeholder groups, harness the power of data analytics for informed decision-making, and maintain flexibility to adapt to evolving market dynamics. Continuous improvement based on these insights is the cornerstone of Olist's ability to remain competitive and flourish in the ever-evolving e-commerce landscape.

Conclusion

In conclusion, the comprehensive analysis of Olist's six dashboard pages provides valuable insights and recommendations for the e-commerce platform's growth and success. These dashboards offer a multifaceted view of Olist's performance, customer behavior, seller ecosystem, delivery efficiency, order management, and reviews.

1. The Customer Dashboard highlights the importance of personalized marketing, customer support enhancements, and loyalty programs to strengthen customer relationships, boost retention, and foster brand loyalty. Olist should proactively enhance overall customer satisfaction, address areas of concern, and leverage positive reviews for strategic marketing initiatives.

2. The Seller Dashboard emphasizes the need for seller diversification and support to expand into regions with growth potential and leverage predictive analytics. Collaboration among various teams and stakeholders is vital to execute these strategies effectively.

3. The Delivery Dashboard underscores the significance of efficient delivery processes and transparent communication to enhance customer satisfaction and reduce cancellations. Olist should continuously optimize logistics operations to ensure timely and accurate deliveries.

4. The Order Dashboard emphasizes the importance of efficient order management and improved order status visibility for streamlined operations and an improved customer experience. Collaboration among teams is crucial to address areas of concern proactively.

5. The Review Dashboard highlights the need for proactive review management and addressing negative feedback to build trust and enhance the platform's reputation. Leveraging positive reviews for marketing purposes can help attract and retain customers.

6. The Key Influencers Dashboard provides insights into variables impacting order cancellations and profit margins. Olist should strategically target high-demand product categories, adjust pricing, optimize delivery efficiency, and foster relationships with repeat customers.

By incorporating these insights into its strategies and fostering collaboration among stakeholders, Olist can drive continuous improvement. Data-driven decision-making, interdepartmental collaboration, and adaptability are key to positioning Olist for sustained growth and competitiveness in the dynamic e-commerce landscape.

The integration of Power BI has been instrumental in facilitating the analysis and interpretation of the dataset, enabling stakeholders to make informed decisions and achieve organizational goals. To capitalize on these insights, Olist and its stakeholders should adopt several strategies. These strategies involve improving the overall satisfaction of customers, taking proactive measures to address areas of concern, using positive reviews effectively for marketing, focusing on high-demand product categories strategically, and continually refining and optimizing logistics operations. It is imperative for various teams and stakeholders to work together collaboratively to implement these strategies successfully.

In summary, Olist has a robust foundation for enhancing customer satisfaction, optimizing operations, expanding the seller base, and achieving long-term success. These insights underscore the importance of data-driven decision-making and the role it plays in Olist's journey towards becoming a leading player in the e-commerce industry.