E-Commerce Business Performance Analysis

Presented by Radisha Fanni Sianti

About Me

"I am a fresh graduate of Master of Statistics and Bachelor of Mathematics from Institut Teknologi Sepuluh Nopember. I have a passion for continuing to learn and develop myself by constantly trying to broaden my knowledge in statistics and other related disciplines. I'm enthusiastic about deriving valuable insights from data and leveraging them to facilitate well-informed decision-making."

Background

In a company, measuring business performance is very important to monitor and assess the success or failure of various business processes. Therefore, this project will analyze the business performance of an eCommerce company, taking into account several business metrics, namely user growth, product quality, and payment types.
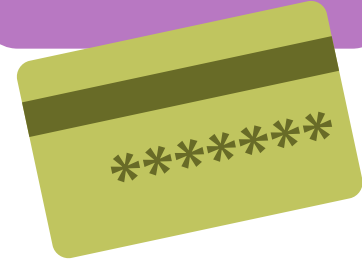
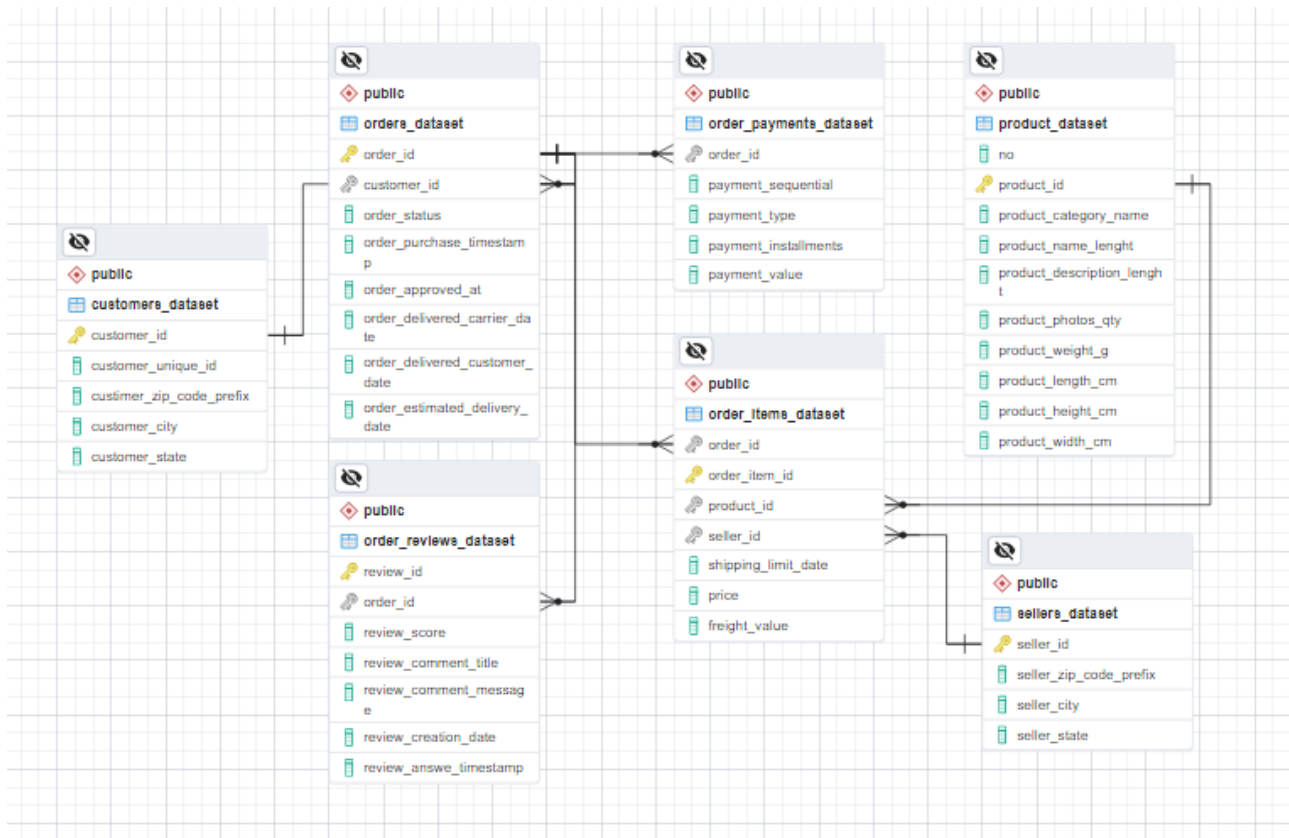Annual Customer Activity Growth Analysis

Annual Product Category Quality Analysis

Annual Payment Type Usage Analysis

Entity Relationship Diagram

public

orders_dataset
- order_id
- customer_id
- order_status
- order_purchase_timestamp
- order_approved_at
- order_delivered_carrier_date
- order_delivered_customer_date
- order_estimated_delivery_date

public

customers_dataset
- customer_id
- customer_unique_id
- custimer_zip_code_prefix
- customer_city
- customer_state

public

order_reviews_dataset
- review_id
- order_id
- review_score
- review_comment_title
- review_comment_message
- review_creation_date
- review_answe_timestamp

public

order_payments_dataset
- order_id
- payment_sequential
- payment_type
- payment_installments
- payment_value

public

order_items_dataset
- order_id
- order_item_id
- product_id
- seller_id
- shipping_limit_date
- price
- freight_value

public

product_dataset
- no
- 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

public

sellers_dataset
- seller_id
- seller_zip_code_prefix
- seller_city
- seller_state
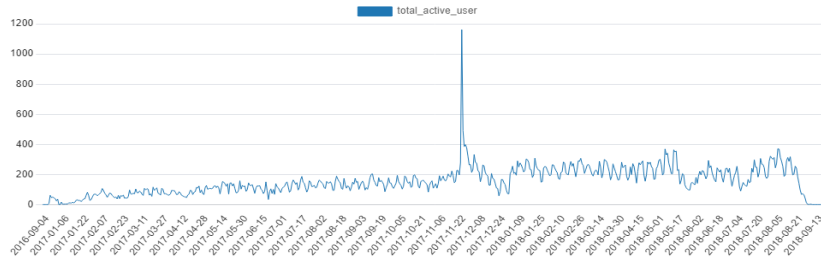
Annual Customer Activity Growth Analysis

Annual Customer Activity Growth Analysis

Total Active User Per Month
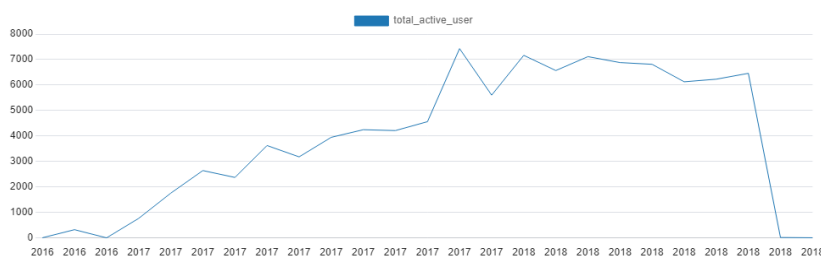
There was a significant increase in total users in 2017 and a decrease in total users at the end of 2018.
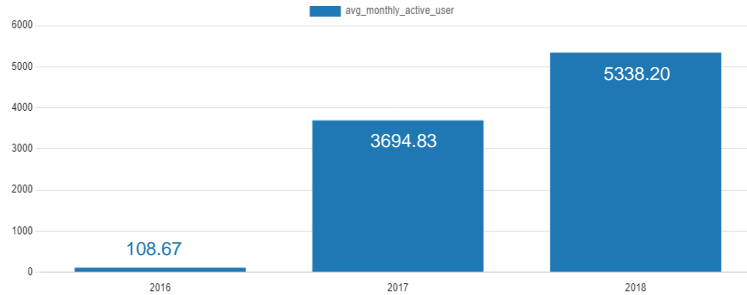
Total Active User Per Day

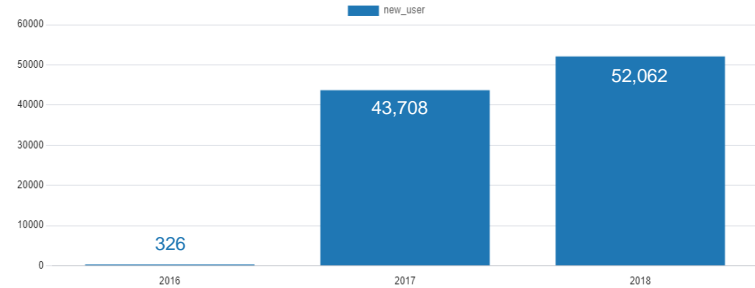The highest total active users occurred on 24 November 2017, with 1161 users.

Annual Customer Activity Growth Analysis

Monthly Active User

Monthly Active User (MUA) shows an increase from year to year. There is a big difference in the values between 2016 and the values for 2017 and 2018. It is because the 2016 data starts in September.

Total New User

In total, it is known from the available data there were 96,096 new users from 2016-2018. It is known that Total New User shows an increase from year to year.
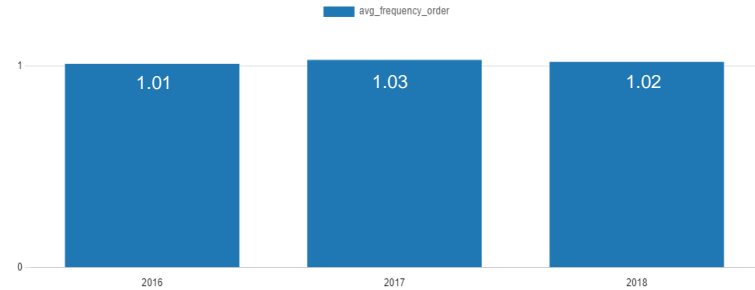
Annual Customer Activity Growth Analysis

Total Users who Repeat Orders
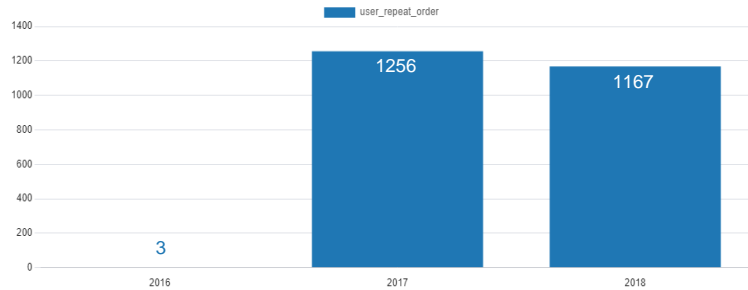
Based on the available data, from September 2016 to October 2018, it is known that 2,426 users had made repeat orders. In 2017, the total number of users who made repeat orders increased and decreased in 2018.

Average Order Per User

Based on the Average Order Per User, the average user only makes one order throughout the year.
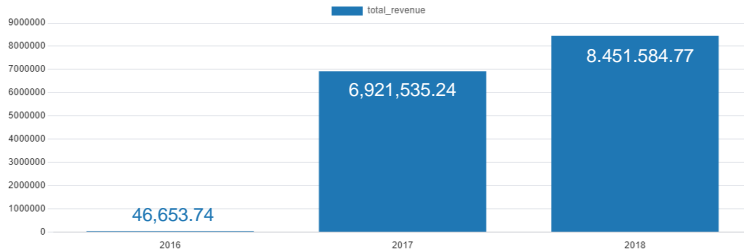
Annual Product Category Quality Analysis

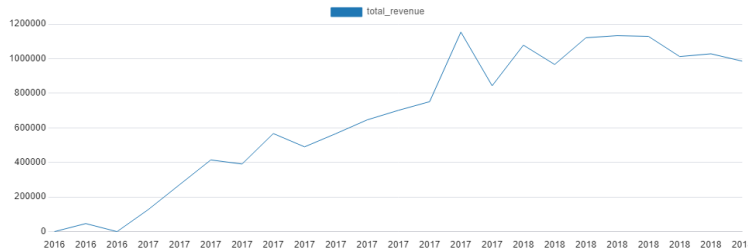# Annual Product Category Quality Analysis

Total Revenue

Total Revenue Per Year

In the 2016-2018 period, there was an increase from year to year. It shows that companies can attract more users, expand market share, and increase sales of their products or services.
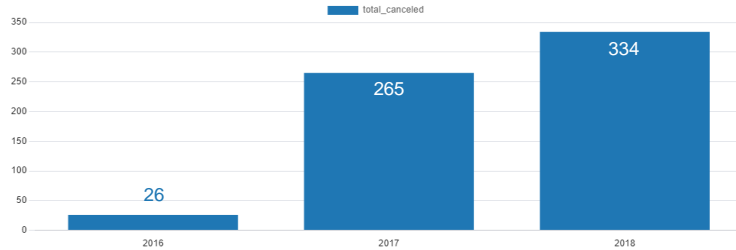
Total Revenue Per Month

Visually, the total e-commerce revenue increased in 2017 and decreased in 2018. The highest total revenue occurred in November 2018 of 1153364.2. The lowest total revenue occurred in November 2016 at 19.62
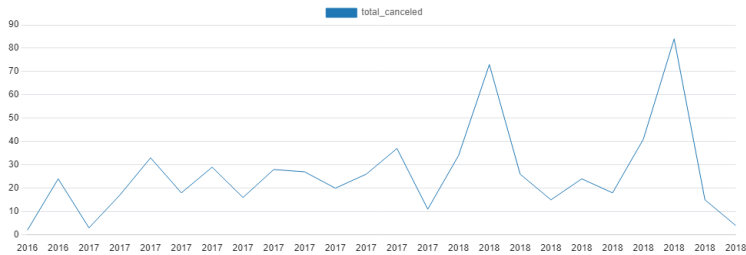
Annual Product Category Quality Analysis

Total Canceled Order

Total Canceled Per Year

There was a significant increase in total canceled from year to year. It is necessary to analyze further the causes of the increase in total canceled to reduce total canceled in the future.
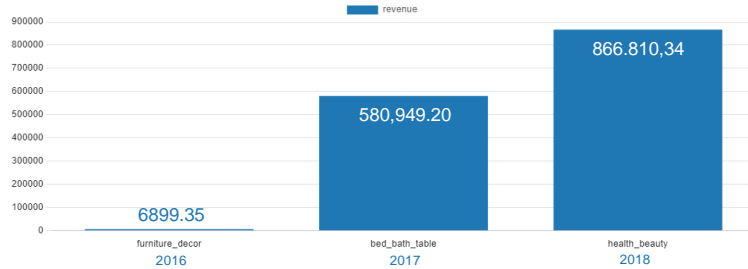
Total Canceled Per Month

Visually, there is an increase and decrease. The highest total canceled orders occurred in August 2018, with 84 canceled. While the lowest total canceled occurred in November - December 2016 of 0.
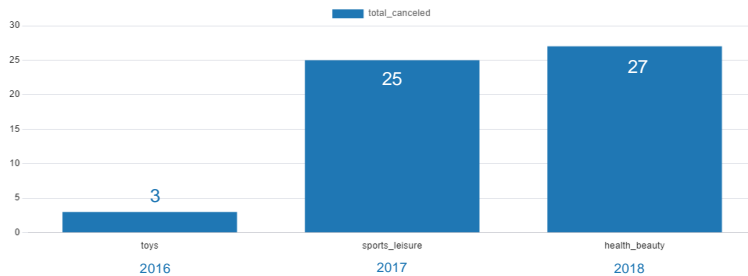
Annual Product Category Quality Analysis

Product Category with the Highest Total Revenue Per Year

The health beauty product category is the product category that generated the largest total revenue in 2018 compared to previous years and other product categories.

## Product Category with the Highest Total Canceled Per Year

The largest total canceled orders occurred in 2018 in the health beauty product category. Based on previous analysis, it is known that health beauty is the product category that generates the largest total revenue and experiences the largest total cancellations.
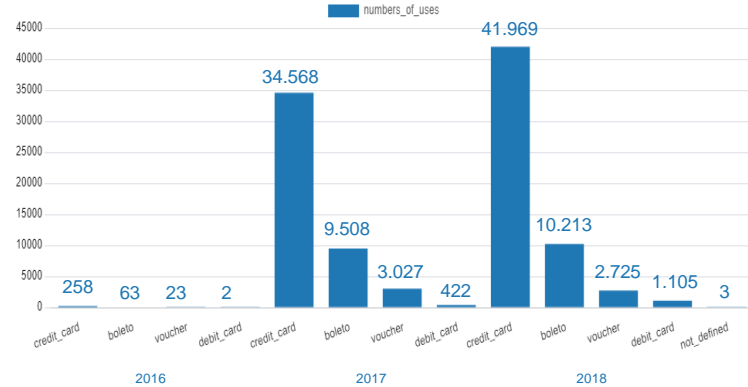
Annual Payment Type Usage Analysis

Annual Payment Type Usage Analysis

Total Usage of Each Type of Payment
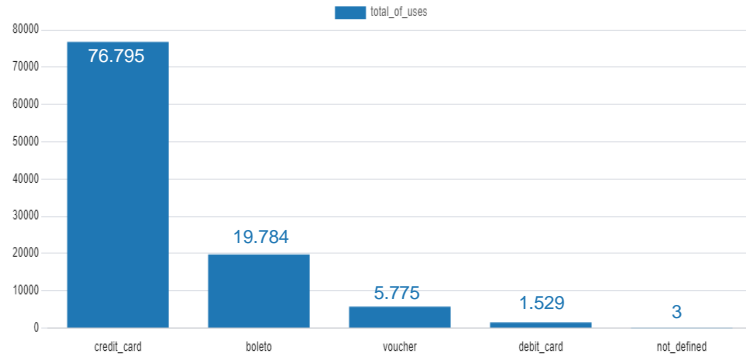
The credit card payment method is the most used payment method by users with 76,795 uses.

Total Usage of Each Type of Payment Per Year

During the 2016-2018 period, credit cards were the most popular payment method used by users in this e-commerce. Then, followed by boleto, vouchers, and debit cards. The trend is the same in the 2016-2018 period.

Summary

1. Annual Customer Activity Growth Analysis

Total Active Users and Monthly Active Users tend to increase yearly. On average, each user makes one order throughout the year. In 2018, there was a decrease in users making repeat orders. Further analysis is needed to determine what caused the decline in this period.

2. Annual Product Category Quality Analysis

Total Revenue Per Year and Total Canceled Per Year have increased in 2016-2018. Product Category Health Beauty has the highest total revenue as well as the highest total canceled in 2018. Further analysis is needed to determine what caused the increase in total canceled per year

3. Annual Payment Type Usage Analysis

In the 2016-2018 period, the Credit Card payment method was most widely used by users. From year to year, there is a trend in the sequence of payment methods that are most used, namely credit cards, boleto, vouchers, and debit cards.

Thanks!

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