

Analyzing eCommerce Business Performance with SQL

Supported By



PostgreSQL



Created by



Garry Louis Giancarlo

Jr Data Scientist

Outline

Overview



Data Preparation



**Annual Customer
Activity Growth
Analysis**



**Annual Product
Category Quality
Analysis**



**Annual Payment
Type Usage
Analysis**



Overview

"In a company, measuring business performance is very important to track, monitor, and assess the success of various business processes. Therefore, this paper will analyze business performance for an eCommerce company, and consider several business metrics, namely customer growth, product quality, and payment types."



Data Preparation



Create Workspace

Creating databases and tables using the CREATE statement.

There are 8 tables in this database, each containing different information about the eCommerce



Importing Data

Importing csv data into the database using the COPY statement

Seller
4 Columns
3.095 Rows

Products
10 Columns
32.951 Rows

Payments
5 Columns
103.886 Rows

Order_Item
7 Columns
112.650 Rows

Orders
8 Columns
99.441 Rows

Note: Each Bubble represent Table

Geolocations
5 Columns
1.000.163 Rows

Customers
5 Columns
99.441 Rows

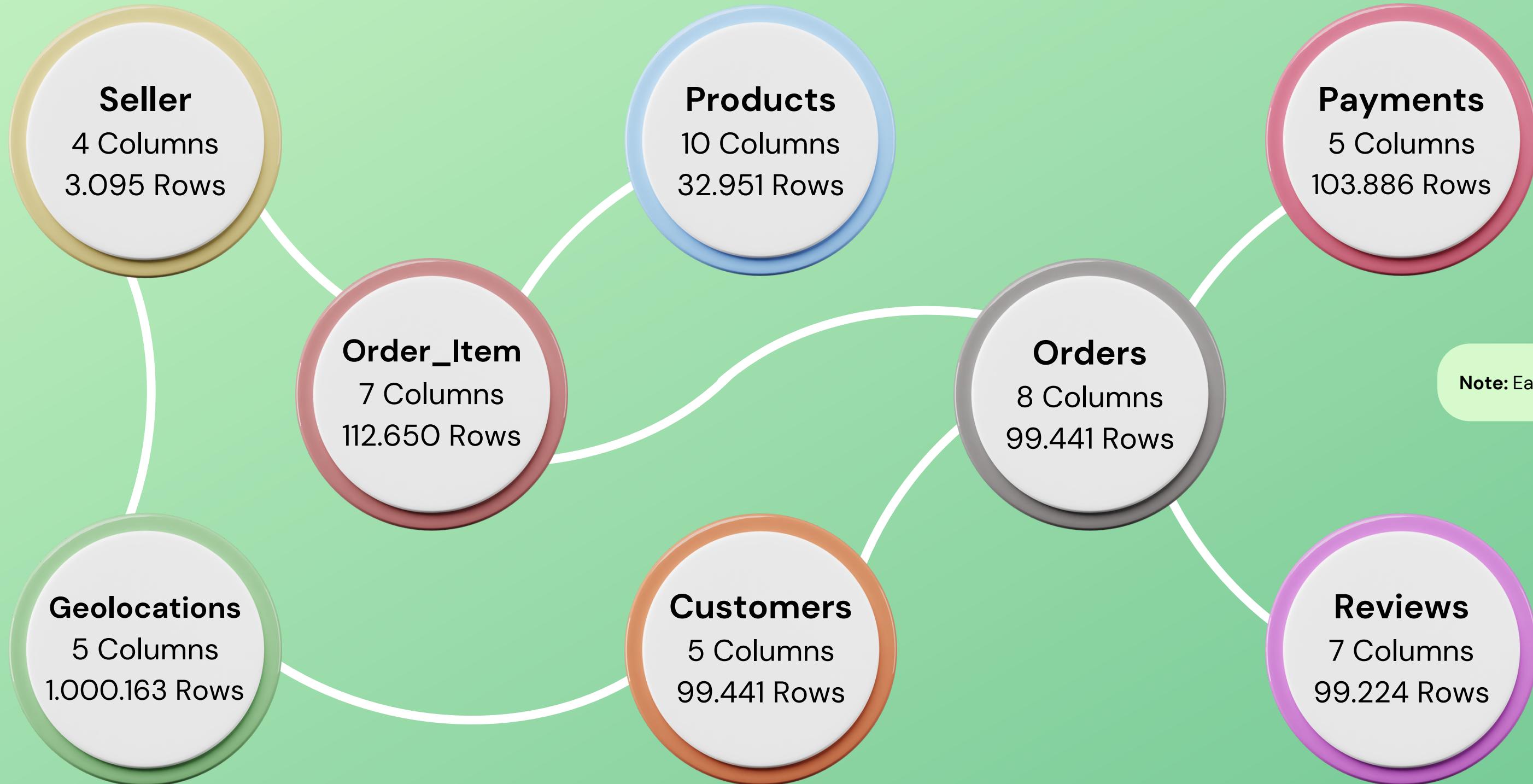
Reviews
7 Columns
99.224 Rows

Data Preparation



Build Entity Relationship

Modify data by adding a primary key and a foreign key using the ALTER statement for each table. Export Entity Relationship Diagram (ERD) in PNG format.



Annual Customer Activity Growth Analysis



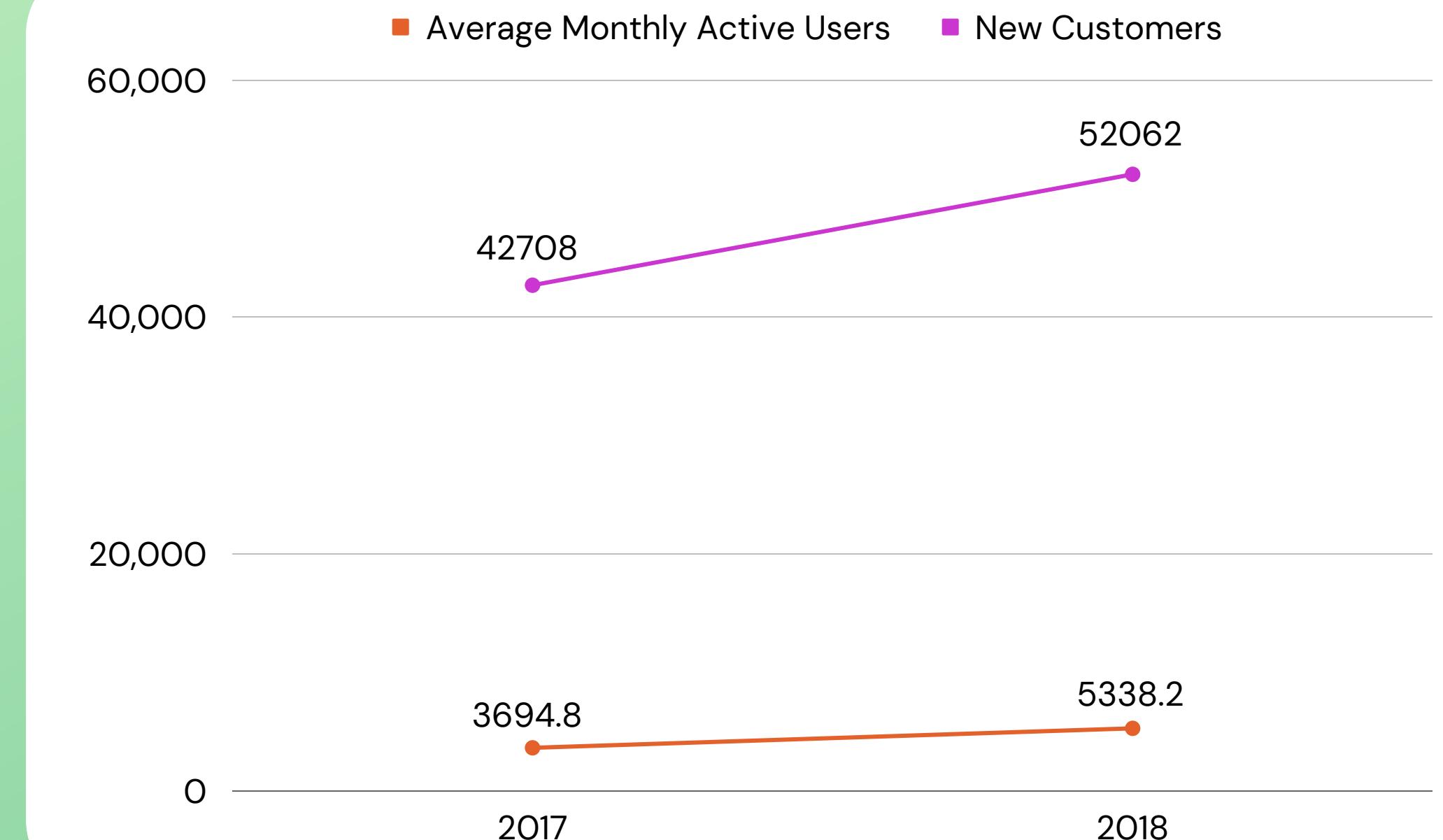
	Average Monthly Active Users	New Customers	Repeating Order Customers	Average Orders Per Customers
2016	108.7	326	3	1.01
2017	3694.8	42708	1256	1.03
2018	5338.2	52062	1167	1.02

[Query Here](#)

Annual Customer Activity Growth Analysis



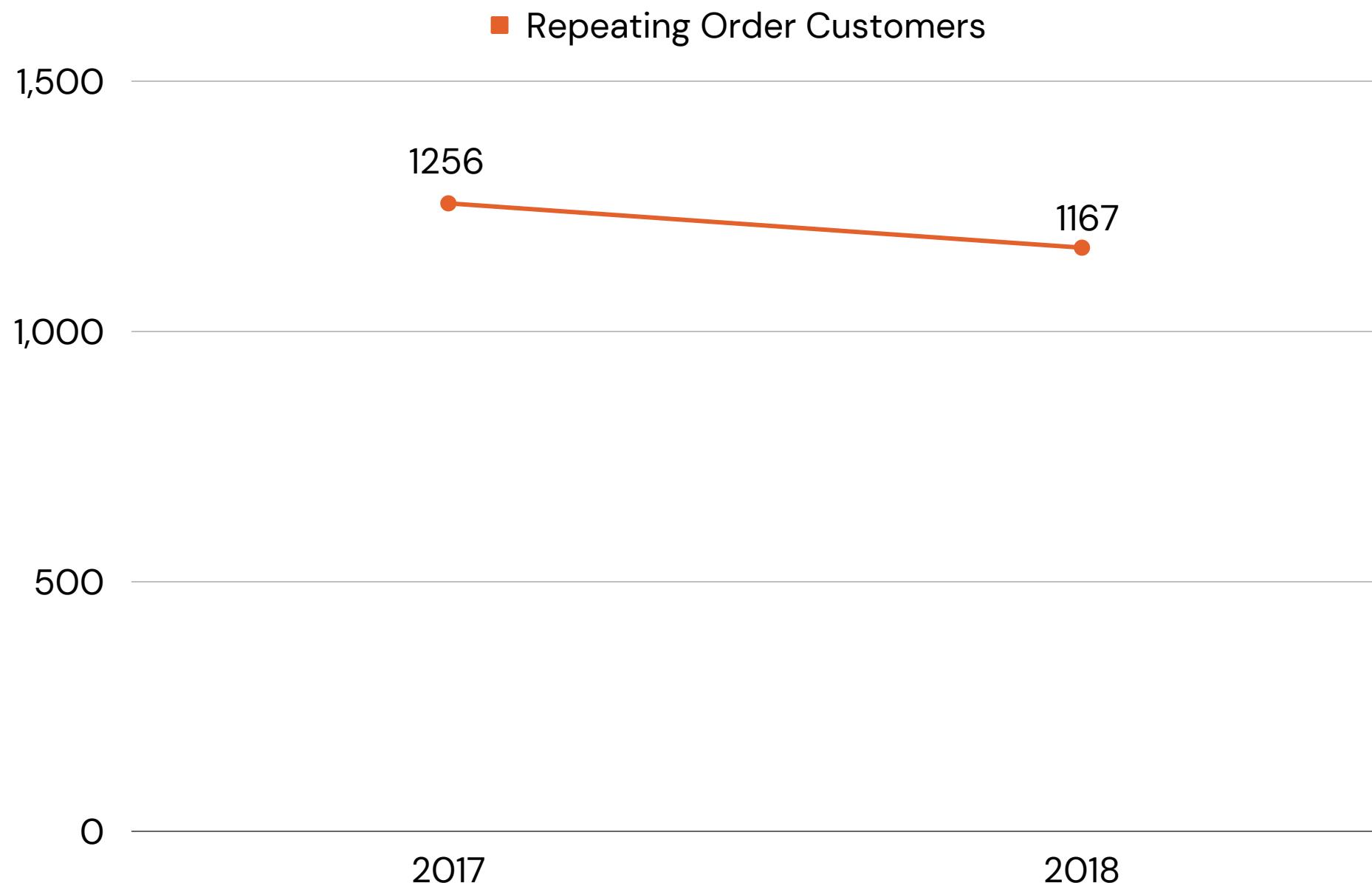
From this analysis, it can be seen that the **Average Monthly Active Users** (MAU) and also the number of **new customers** have **increased** from 2017 to 2018 with an MAU **growth percentage** of **44.4%** and a new customer growth percentage of **21.9 %**.



Note: The available data for 2016 is only from September 2016, so I did not include it in this analysis.

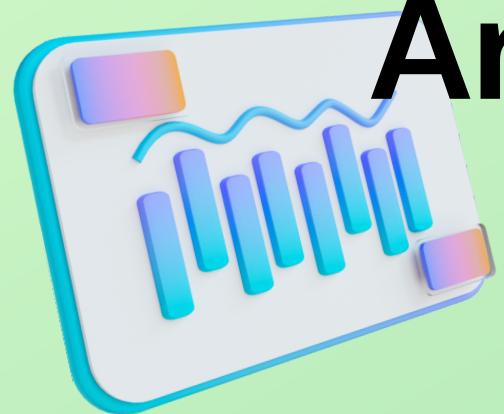
[Query Here](#)

Annual Customer Activity Growth Analysis



However, in terms of **orders made by customers**, it looks not too good. It can be seen that most of the customers only place an order once during the year. Even the number of **customers who made repeat orders decreased** slightly from **2017 to 2018** with a **7.08%** rate. Although the decrease was slight, further research should be conducted to prevent decreasing even more in the future.

Note: The available data for 2016 is only from September 2016, so I did not include it in this analysis.



Annual Product Category Quality Analysis

Top Category



	2016	2017	2018
Top Category Revenue	\$6.899,35	\$580.949,2	\$866.810,33
Top 3 Category	Furniture Decor	Bed Bath n Table	Health & Beauty
	Perfumery	Health & Beauty	Watches & Gifts
	Toys	Watches & Gifts	Bed Bath n Table

This table shows that the **top 3 product categories change each year**. The **top category revenue also increases** each year. The interesting thing, the top 3 in **2017** and **2018** are in the **same category** in a different **order**.

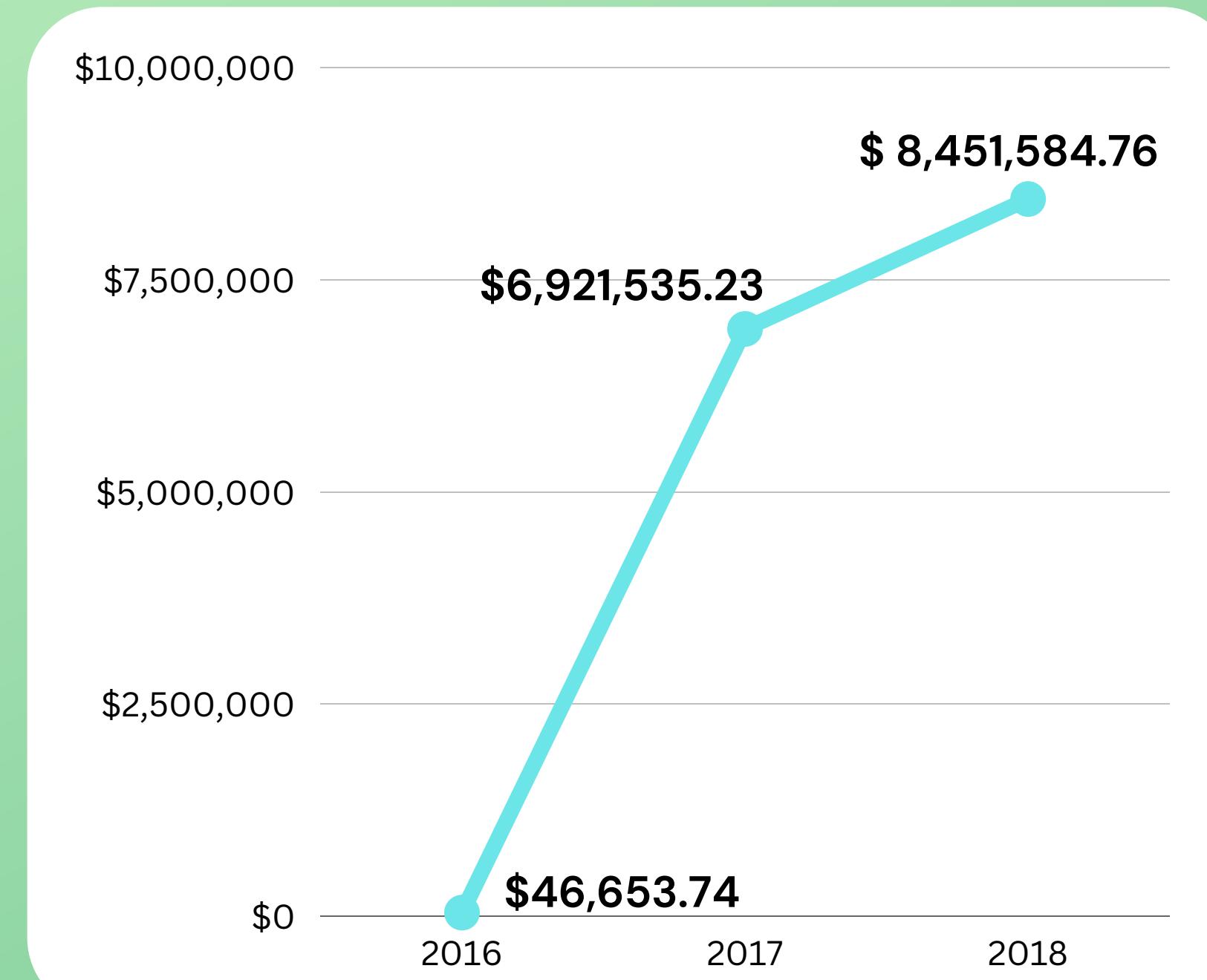
[Query Here](#)

Annual Product Category Quality Analysis



Total Revenue

In terms of **revenue**, the company as a whole has also increased each year. The **revenue growth percentage** from 2017 to 2018 is **22.1%**. According to [statista](#), the average revenue growth percentage of e-commerce in Brazil from 2017–2018 is **10.01%**. This can be a sign of the company's growth in a good direction



[Query Here](#)

Annual Product Category



Quality Analysis Cancelled Category Ratio

	2016	2017	2018
Most Cancelled Category	Toys 3 times (100% of total cancellation)	Sport & Leisure 25 times (9.4% of total cancellation)	Health and Beauty 27 times (8.1% of total cancellation)
Total All-Category Cancellation	3 times (0.9% of year total orders)	265 times (0.6% of year total orders)	334 times (0.6% of year total orders)
Top Category	Furniture Decor	Bed Bath n Table	Health and Beauty

The product categories with the **most cancellations** also **change each year**.

The interesting one to note here is that the **health and beauty** product category is the product category that had the **most revenue** as well as the product category with the **most cancellations in 2018**.

nevertheless, the **ratio of cancelled** orders compared to total cancellation per year and the total number of orders per year is **considerably small**.



[Query Here](#)



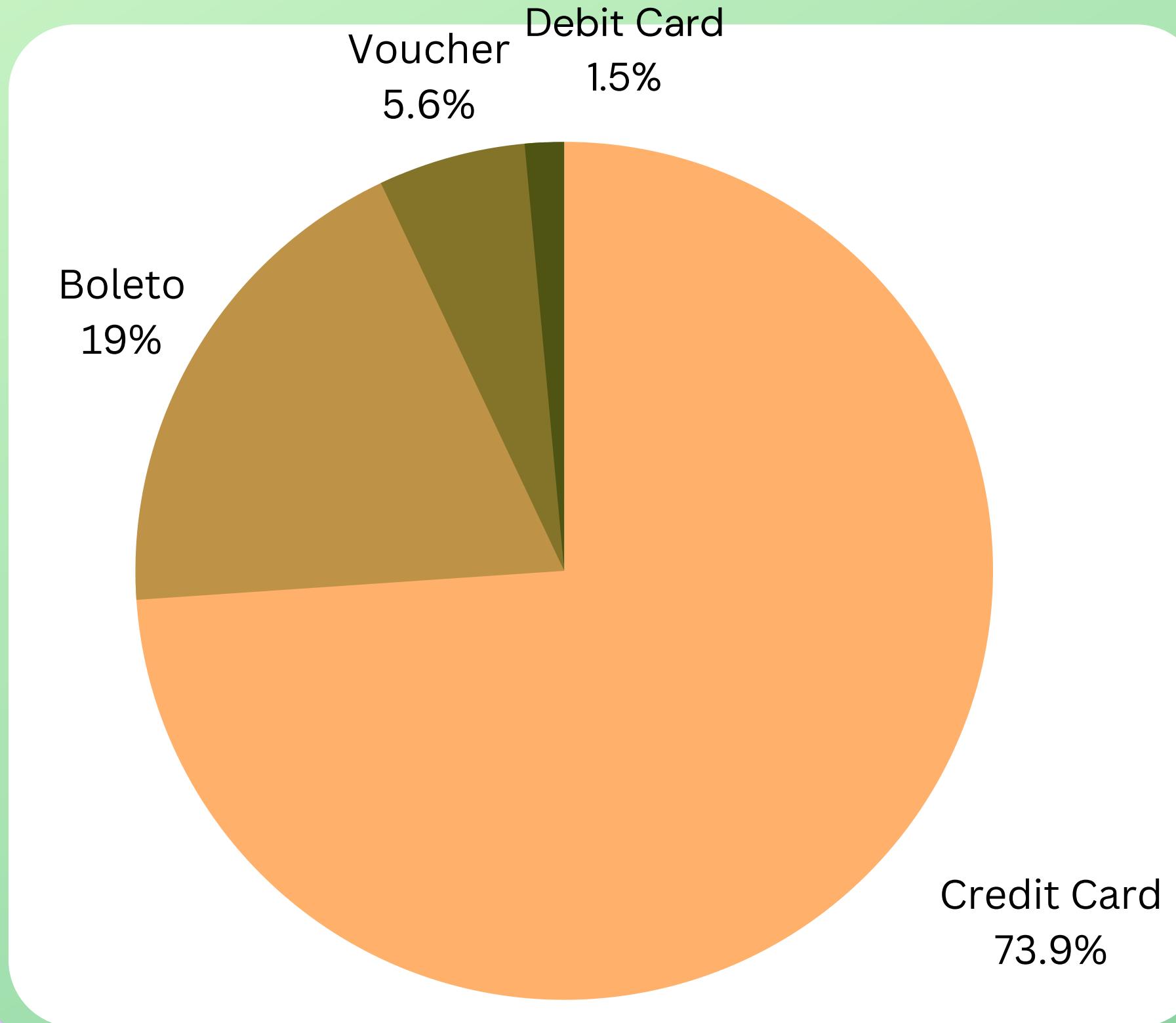
Annual Payment Type Usage Analysis

Payment Type	2016	2017	2018	All-Time
Credit Card	258	34568	41969	76795
Boleto	63	9508	10213	19784
Voucher	23	3027	2725	5775
Debit Card	2	422	1105	1529
Not Defined	0	0	3	3

[Query Here](#)

Annual Payment Type Usage Analysis

All-Time



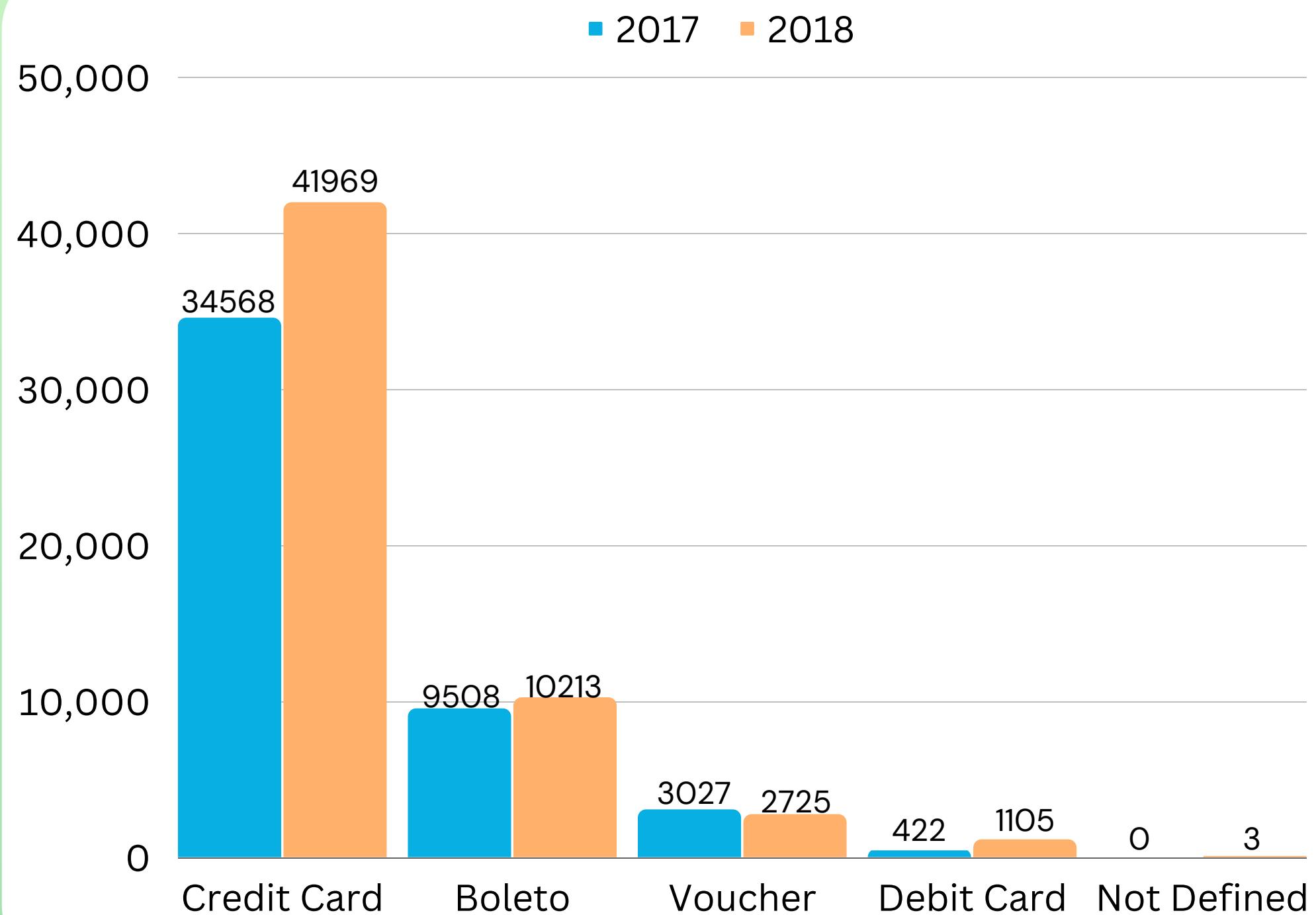
Overall, the preferred method of payment is **credit cards**. According to [Statista](#), [thepaypapers](#), and [marketing4ecommerce](#) the most popular payment type in Brazil is Credit Cards, due to the **convenience** of making payments in **monthly installments** using credit cards.

Boleto is a popular Brazilian **cash payment** method. A 'boleto' is a **printed or virtual voucher with a barcode**, payment details, and customer information. Boletos **can be paid at thousands of locations** across Brazil. This type of payment is **very convenient** for those who **do not have access to a bank account**.

[Query Here](#)

Annual Payment Type Usage Analysis

Year-on-Year

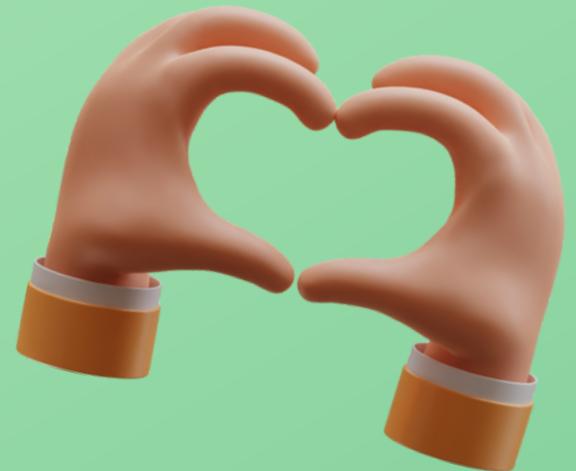


Another interesting thing to note here is the **significant increase** in the use of **debit cards**, which is more than **100% from 2017 to 2018**. On the other hand, the use of **vouchers** decreased from 2017 to 2018.

This may have happened due to promotions/cooperation with certain debit cards and also a reduction in promotional methods using vouchers. further analysis can be carried out regarding this.

Note: The available data for 2016 is only from September 2016, so I did not include it in this analysis.

Analyzing eCommerce Business Performance with SQL



Thank You

Created by



Garry Louis Giancarlo
Jr Data Scientist

Supported By



Career Acceleration School
www.rakamin.com

Certificate of Completion

