

Analyzing eCommerce Business Performance with SQL



Created by:

Mohammad Nabil Syakir

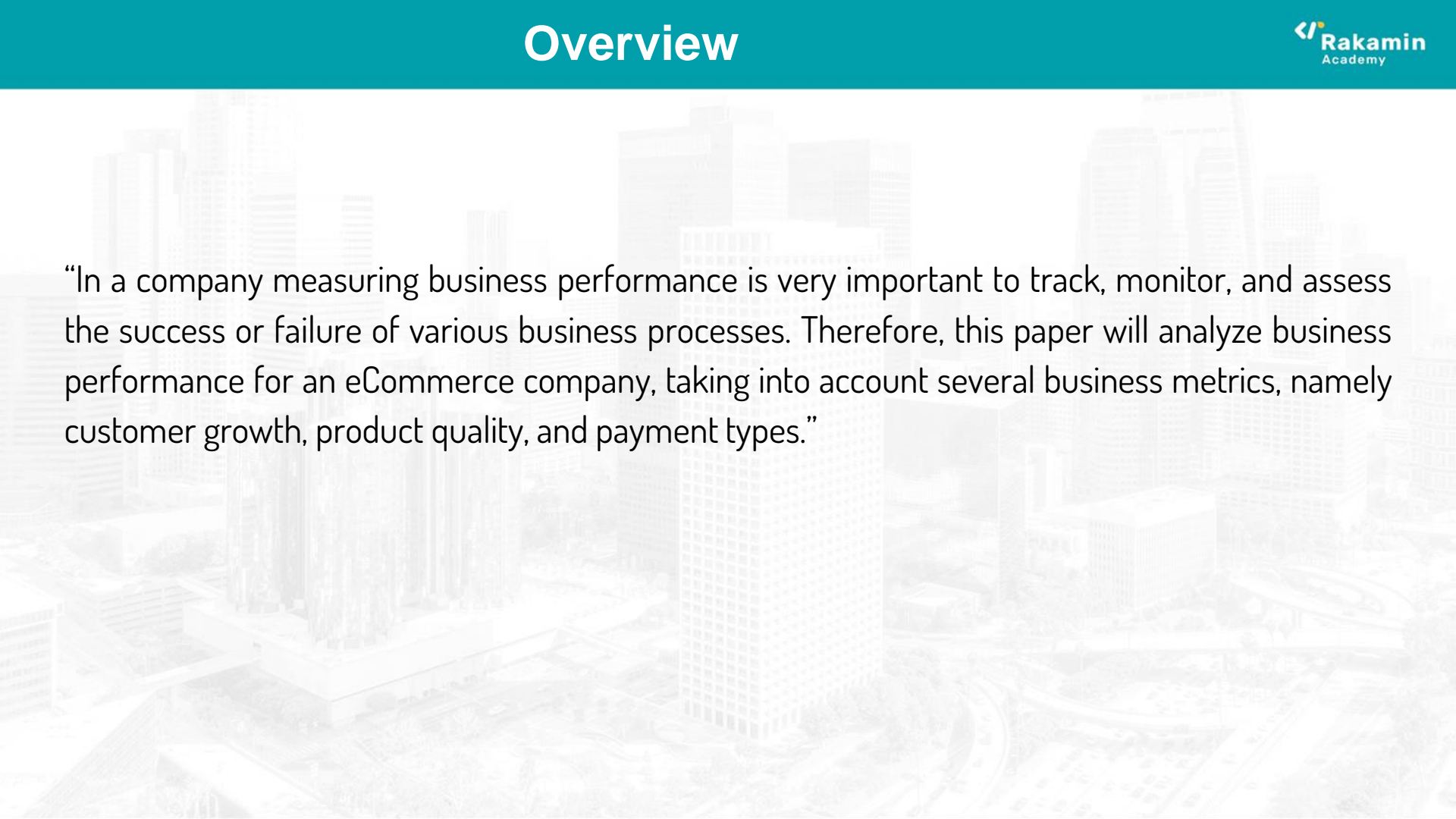
mohammadnabilsyakir@gmail.com

<https://www.linkedin.com/in/mohammadnabilsyakir/>

“Nabil is a data enthusiast who graduated from The University of Brawijaya with a Financial Management as central.

He is self-motivated, committed, and determined to achieve his goals. He enjoys learning new things and can work very well under pressure.

I am currently exploring data science at Rakamin Academy to get a better understanding of the data field.”

A faded, light-colored background image of a city skyline with various skyscrapers and buildings.

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

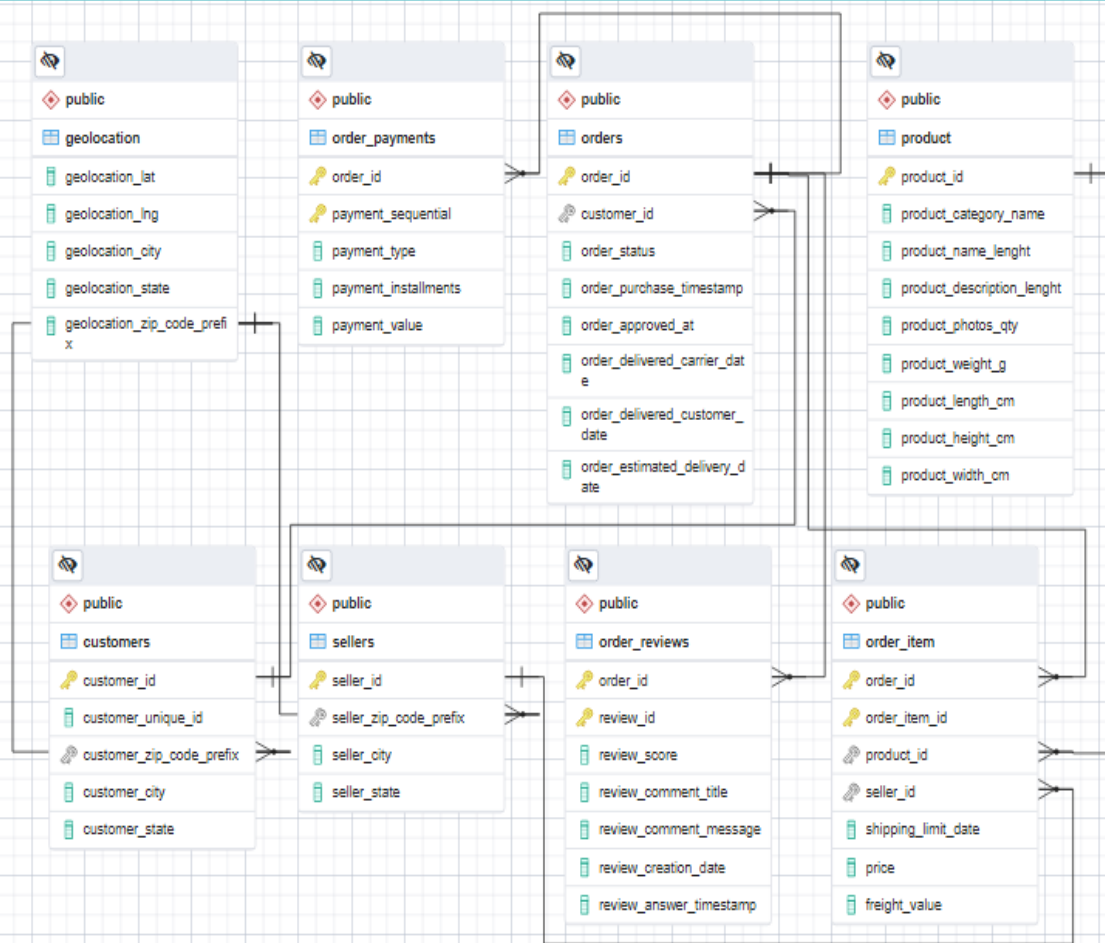
Data Preparation

At the preparation level, I import 8 tables of dataset e-commerce pada PostgreSQL. Datasets are cleaned up first using excel and then imported according to the data type of each column, as well as a primary key on the table.

After the data is successfully imported, the next step is to define relationships between tables using ERD Entity Relationship Diagram that can be viewed in the image on the side.

The dataset can be viewed [here](#)

The full query can be seen [here](#)



Annual Customer Activity Growth Analysis

Year	Average MAU	New Customer	Repeated Order	Average Freq RO
2016	108.67	329	3	1.009
2017	3694.83	45101	1256	1.032
2018	5338.2	54011	1167	1.024

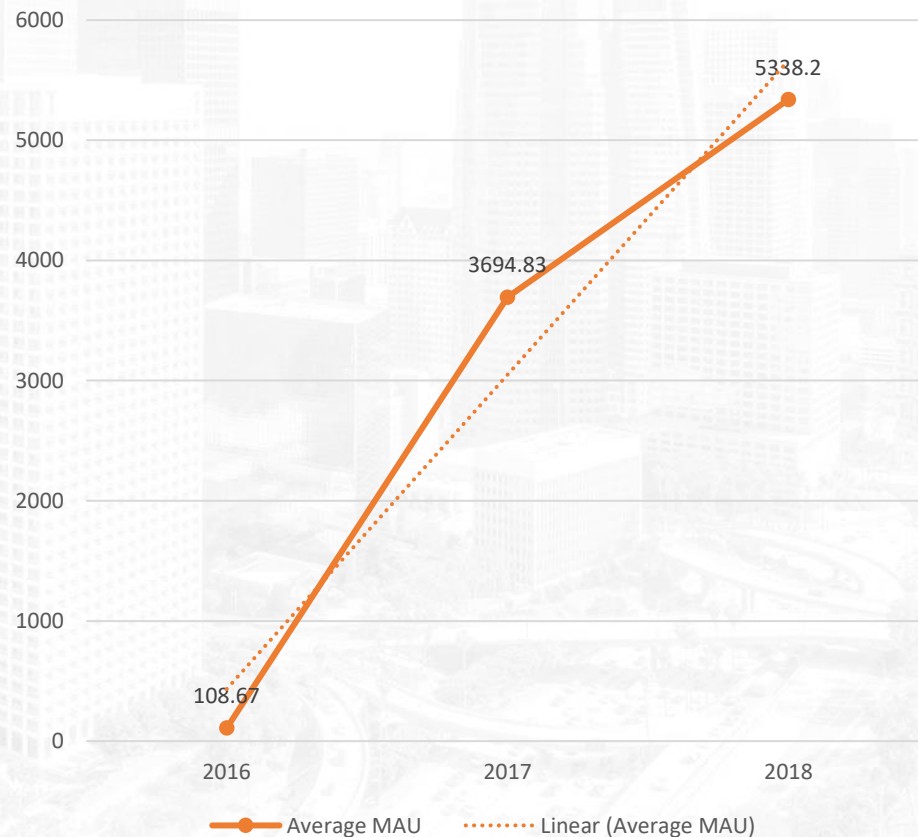
*MAU (Monthly Active User)

*RO(Repeat Order)

Overall, it can be seen that there was an increase in the number and activity of customers in 2016 – 2018.

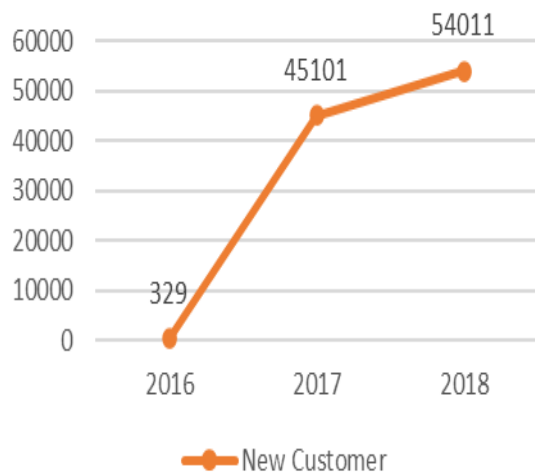
However, in the Average freq RO column, the value recorded in 2018 experienced a decrease in the number of transactions.

Average Monthly Active Users

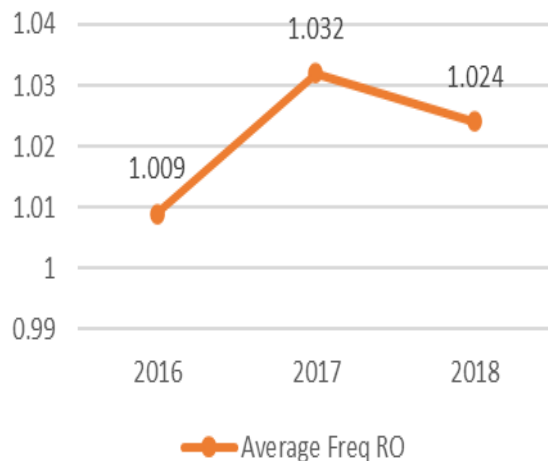


Annual Customer Activity Growth Analysis

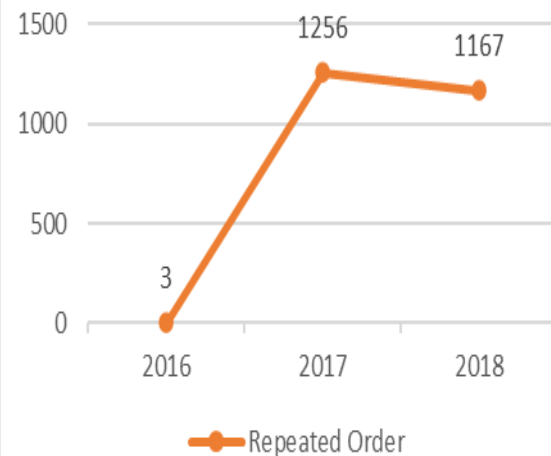
Annual New Customer



Annual Frequency RO



Annual Repeated Order



Based on the chart above, we can see that the growth of new customers continues to increase every year. The annual frequency repeat order chart experienced fluctuations in value from 2016 - 2018. The annual repeated order chart also fluctuates every year, this must be done further analysis to see the cause of the decline in repeated orders from 2017 - 2018.

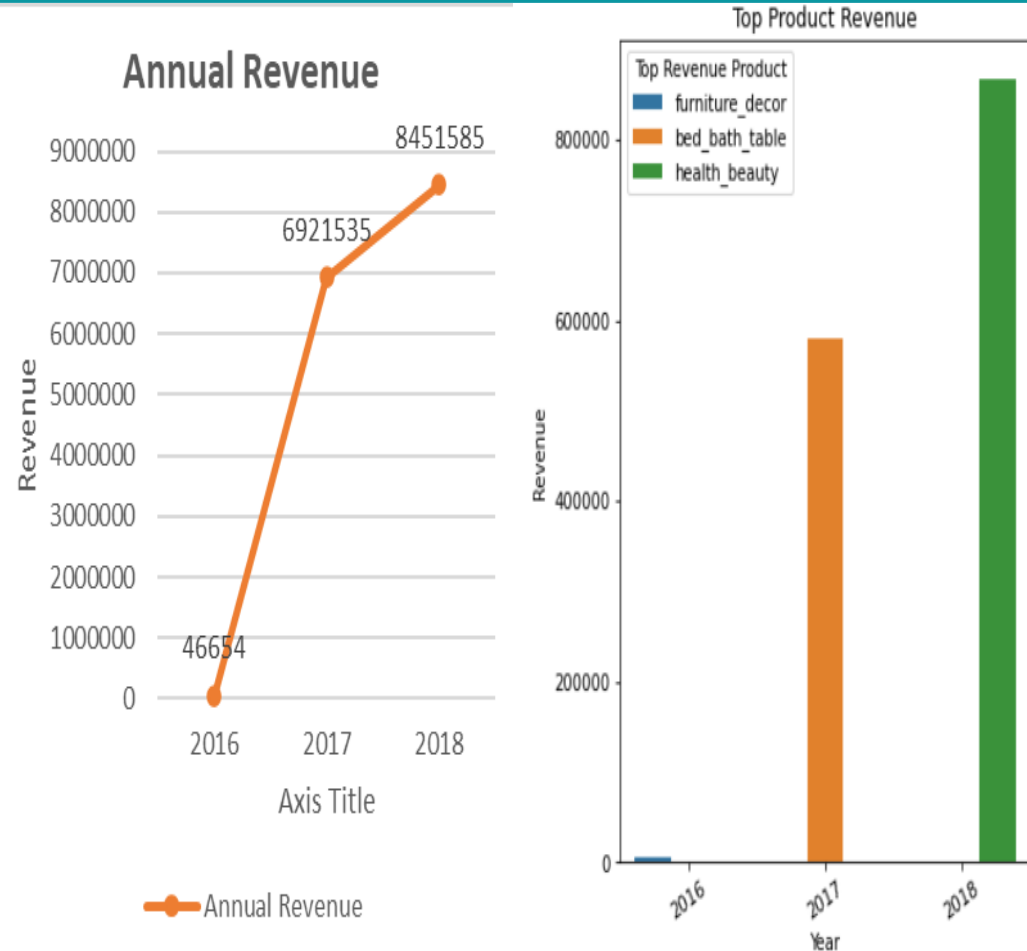
Annual Product Category Quality Analysis

Year	Annual Revenue	Top Revenue Product	Product Revenue	Top Canceled Product	Number of Canceled	Total Canceled Product
2016	46654	furniture_decor	6899	toys	3	26
2017	6921535	bed_bath_table	580949	sports_leisure	25	265
2018	8451585	health_beauty	866810	health_beauty	27	334

At this stage, I combine the data on total revenue per year, total canceled orders per year, as well as product categories that contribute the most revenue and cancel orders per year.

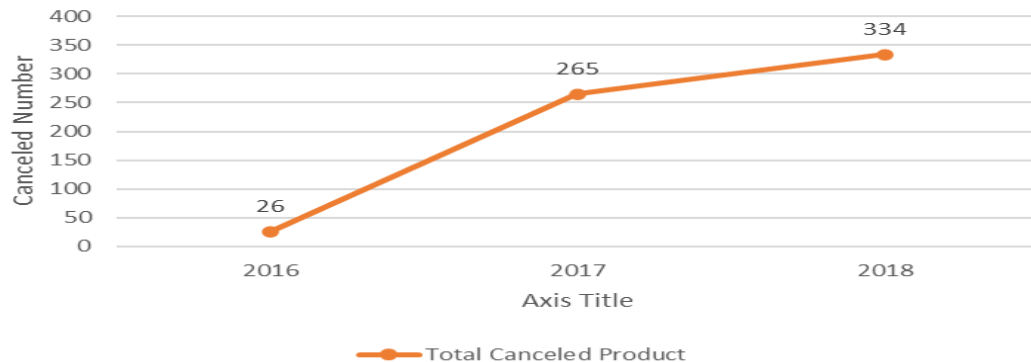
Annual Product Category Quality Analysis

The graph on the side is the amount of income per year. In 2016 revenue was 46,654, in 2017 it was 6,921,535 and in 2018 it was 8,451,585. the biggest increase occurred in 2017. The products that contribute the largest revenue each year are décor furniture, bed bath table, and healthy beauty.



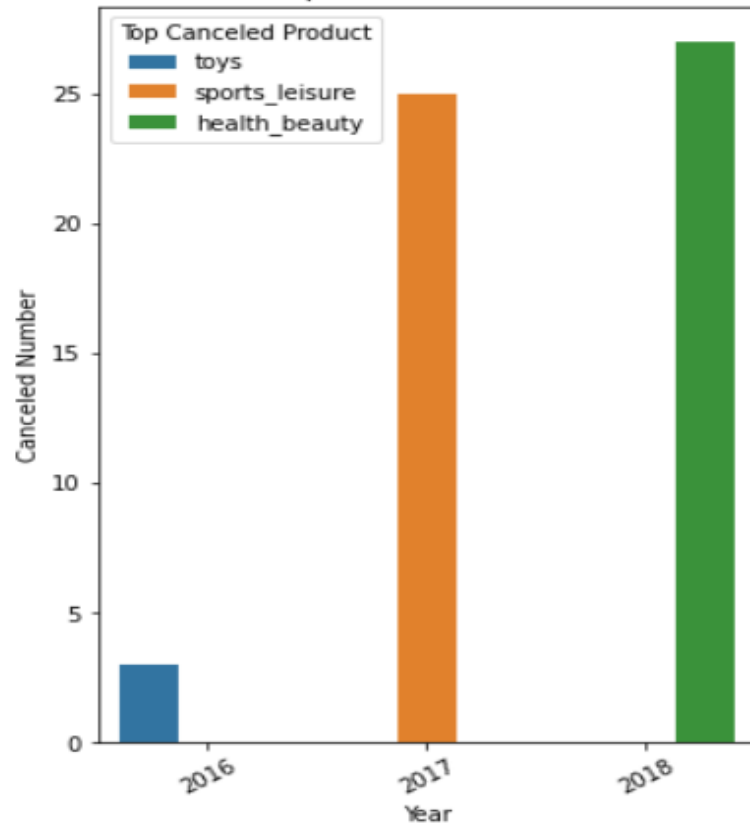
Annual Product Category Quality Analysis

Annual Canceled Product

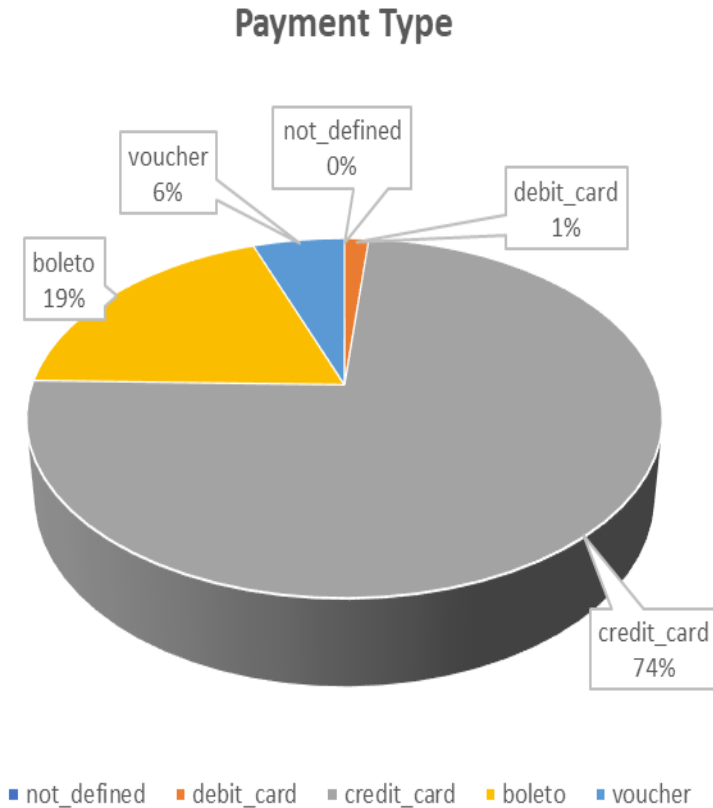


Based on the chart, we can see that there is an increase in order cancellations every year. The toys category (2016), sports leisure (2017), and health beauty (2018) contributed the most to the order cancellation category. In all three categories, it requires more attention to quality control and further analysis regarding the causes of the cancellation of the order.

Top Canceled Product



Analysis of Annual Payment Type Usage



The graph in addition shows the tendency of consumers to choose the payment method used in 2016-2018.

The majority of users use credit cards as a payment method (74%) followed by boleto (19%), vouchers (6%), debit cards (1%), and not defined (0%).

Credit cards are excellent perhaps because of the convenience and bonuses that will be obtained when transacting using a credit card.