

Analyzing eCommerce Business Performance with SQL

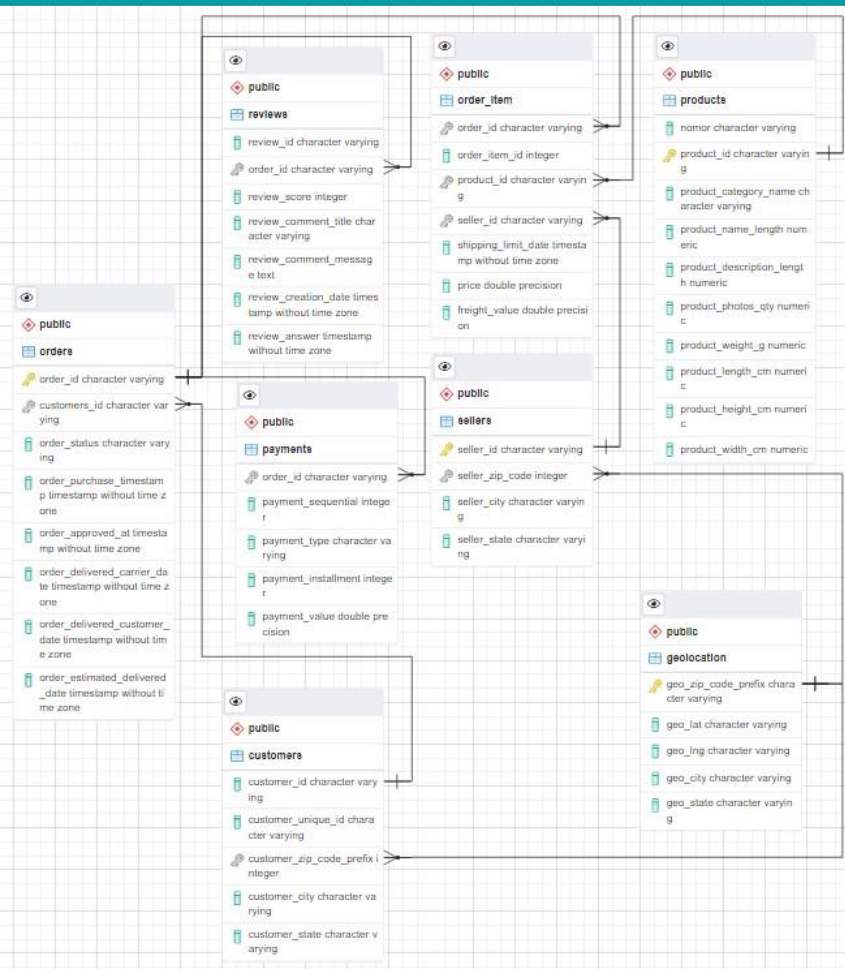


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” In a company, measuring business performance is very important to track, monitor, and assess the success or failure of various business processes. Therefore, this paper will analyze business performance for an eCommerce company, taking into account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

Data Preparation



Create workstation

Create database by right click on Database menu, then create tables for datasets using CREATE TABLE statement while considered data type from raw data.

Importing data

Importing raw data (.csv) into tables using COPY statement.

Constructing ERD

Entity Relationship Diagram constructed using ERD tool while considered scheme that already been given.

See ERD by click [here](#)
See full version of query by click [here](#)

Annual Customer Activity Growth Analysis

Data that been used for this report started from September 2016 until 2018. It caused any calculation for 2016 seems insignificant than others.

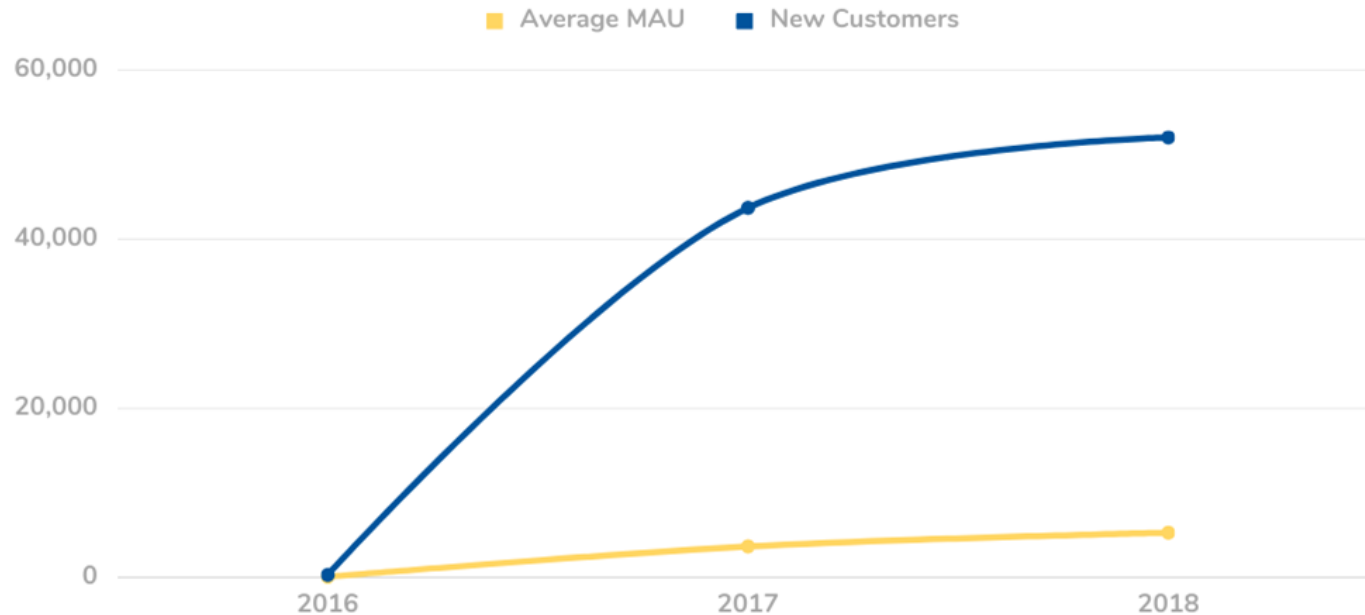
Customer activity growth metric

tahun double precision 🔒	average_mau numeric 🔒	new_customers bigint 🔒	repeat_customers bigint 🔒	avg_order_per_customer numeric 🔒
2016	108.67	326	3	1.01
2017	3694.83	43708	1256	1.03
2018	5338.2	52062	1167	1.02

Annual Customer Activity Growth Analysis

Available data shows the average number of monthly active users and new customers were steadily increasing from September 2016 through 2018.

Customers growth metric September 2016 to 2018
Average MAU and new customers

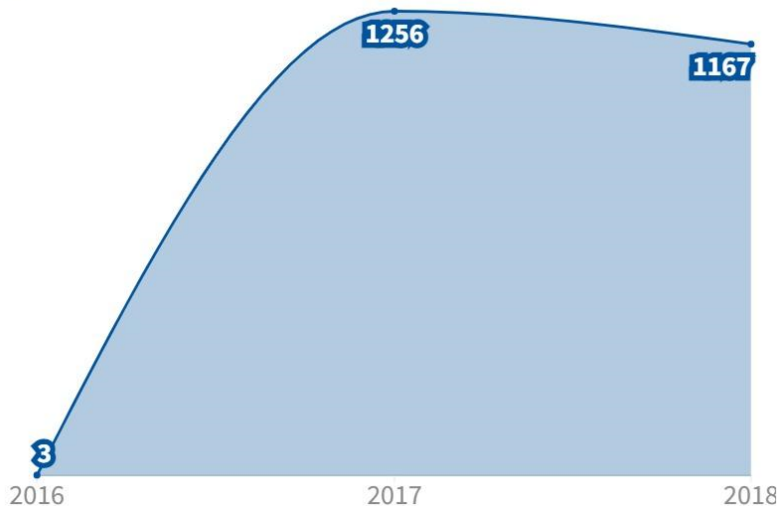


Annual Customer Activity Growth Analysis

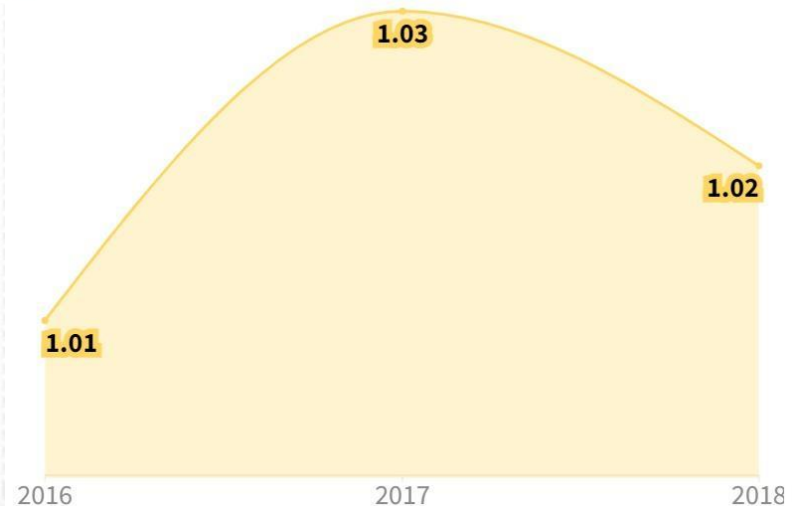
Even number of monthly active user and new customers steadily increasing, **number of repeat customers and AOF were propensity decreasing. Most of customers tend to make order once a year.**

Customers growth metric September 2016 to 2018
Number of repeat customers and average order frequency

Repeat Customers



Average Order Frequency



“Since 2016 till 2018, Ecommerce gained new customers but diminished on dedicated customers”



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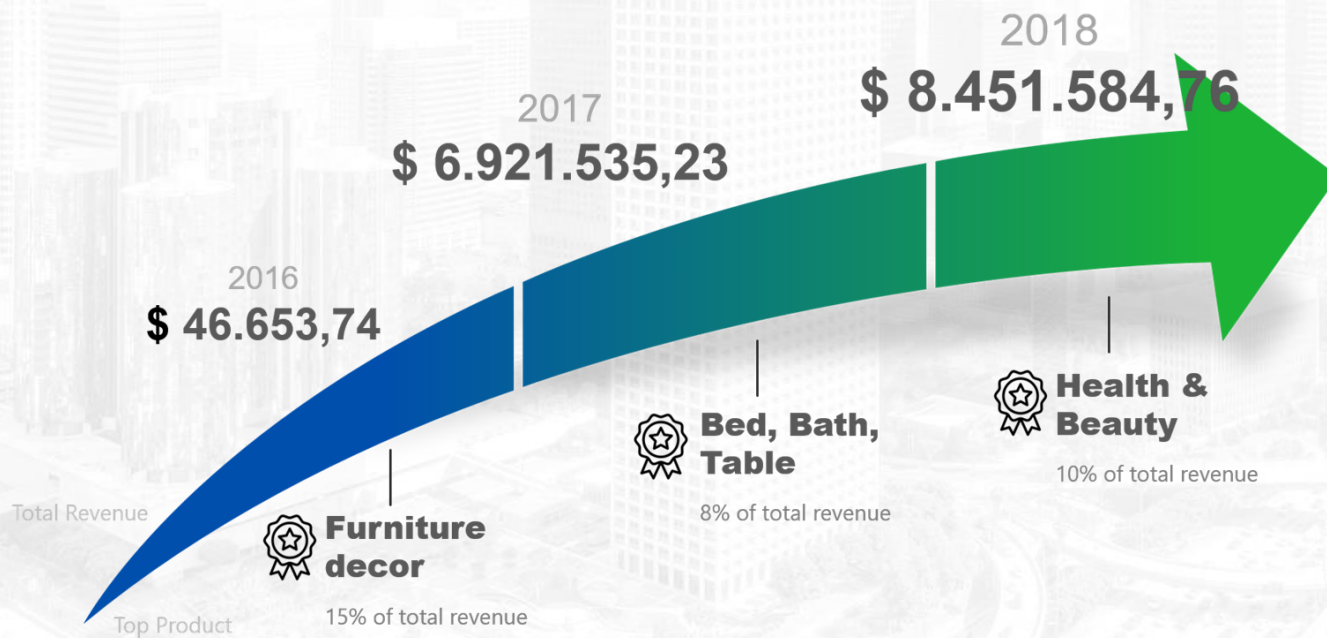
Annual Product Category Quality Analysis

	tahun double precision	year_total_revenue double precision 🔒	top_product_category_ character varying	category_revenue_ double precision	most_canceled_product_ character varying	category_number_canceled_ bigint	year_total_number_canceled_ bigint 🔒
1	2016	46653.740000000005	furniture_decor	6899.34999999	toys	3	26
2	2017	6921535.239999665	bed_bath_table	580949.200000	sports_leisure	25	265
3	2018	8451584.76999985	health_beauty	866810.339999	health_beauty	27	334

Annual Product Category Quality Analysis

Data shows that total revenue was increasing every year with different top product each year.

Revenue growth with the top product category for past 3 years



Annual Product Category Quality Analysis

Data shows the number of canceled orders each year was increased with diverse product category. In 2018, Health & Beauty became most top product but at the same time came up as the most canceled orders. It might happen in the view of Health & Beauty becoming hype stuff but there are many options available beyond what we offer. "I change my mind" behavior needs to be considered. *Further investigation will necessary.*

The most canceled product every year:

2016
12% of 26



Toys

2017
9% of 265



Sport leisure

2018
8% of 334



Health & Beauty

Analysis of Annual Payment Type Usage

Number of payment type each year

	payment_type character varying 🔒	tahun_2016 numeric 🔒	tahun_2017 numeric 🔒	tahun_2018 numeric 🔒
1	credit_card	258	34568	41969
2	boleto	63	9508	10213
3	voucher	23	3027	2725
4	debit_card	2	422	1105
5	not_defined	0	0	3

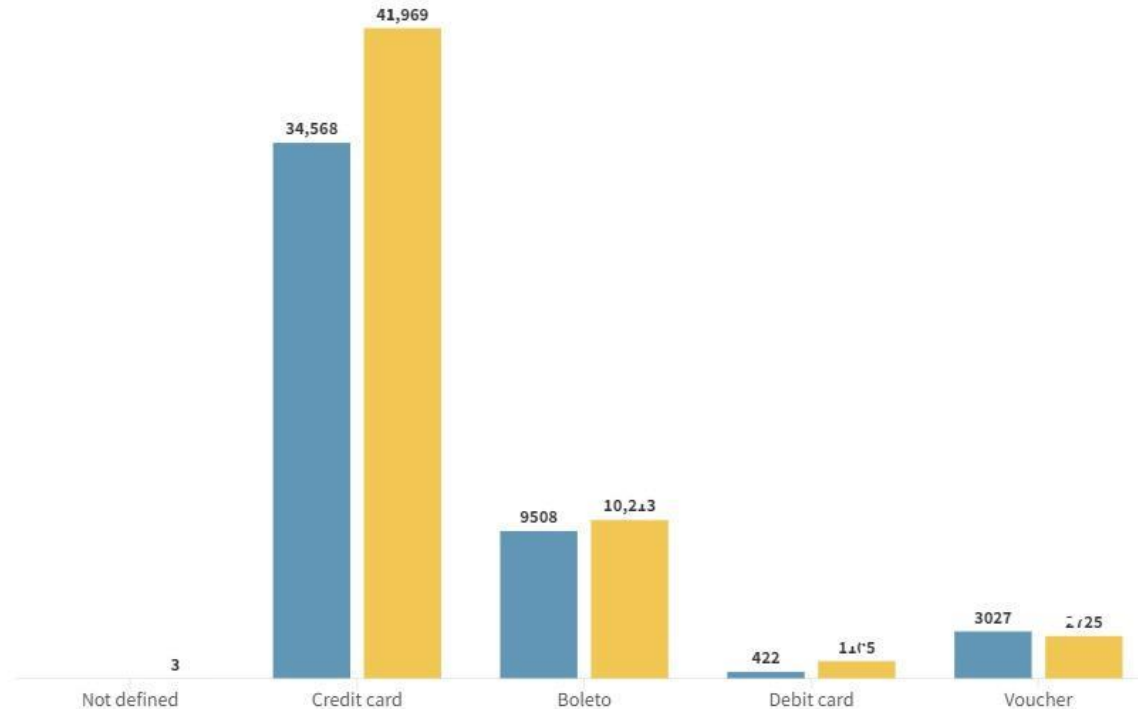
Number of payment type all the time

	payment_type character varying 🔒	jumlah_pengguna bigint 🔒
1	credit_card	76795
2	boleto	19784
3	voucher	5775
4	debit_card	1529
5	not_defined	3

Analysis of Annual Payment Type Usage

Credit card is the most payment type.

■ 2017 ■ 2018



Data shows that payment type by debit card was increased by over 100%. But the other side, payment type by voucher were decreased. This might happen if there are any benefit from payment using debit card, it will need more investigation to concerned department.