

Analyzing eCommerce Business Performance with SQL

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“A bachelor's degree in business management with expertise in data analytics proven by his recent lesson about Data Science. A data-driven decision-maker through his final project built a machine learning model. Bagus (23) is also experienced in the workforce solution industry as Project Management Officer. Proven track record as a facilitator to 10 clients in any different related cases in day-to-day operations.”

Overview

“Dalam suatu perusahaan mengukur performa bisnis sangatlah penting untuk melacak, memantau, dan menilai keberhasilan atau kegagalan dari berbagai proses bisnis. Oleh karena itu, dalam paper ini akan menganalisa performa bisnis untuk sebuah perusahan eCommerce, dengan memperhitungkan beberapa metrik bisnis yaitu pertumbuhan pelanggan, kualitas produk, dan tipe pembayaran.”

Data Preparation



Here are a few steps to build a database:

1. **Create database** using pgAdmin tools as **mini_project_1**,
2. **Create 9 new table and columns** using CREATE statement with the following dataset in csv file. Make sure the data type matched,
3. **Import csv data** to the database using COPY statement. Make sure dataset path (in local storage) must be complete until the file_name.csv,
4. **Create ERD** with determine the **primary key** and **foreign key** using ALTER TABLE statement,
5. **Save and download** image ERD.

[View or download ERD here](#)
[Completed query can be seen here](#)

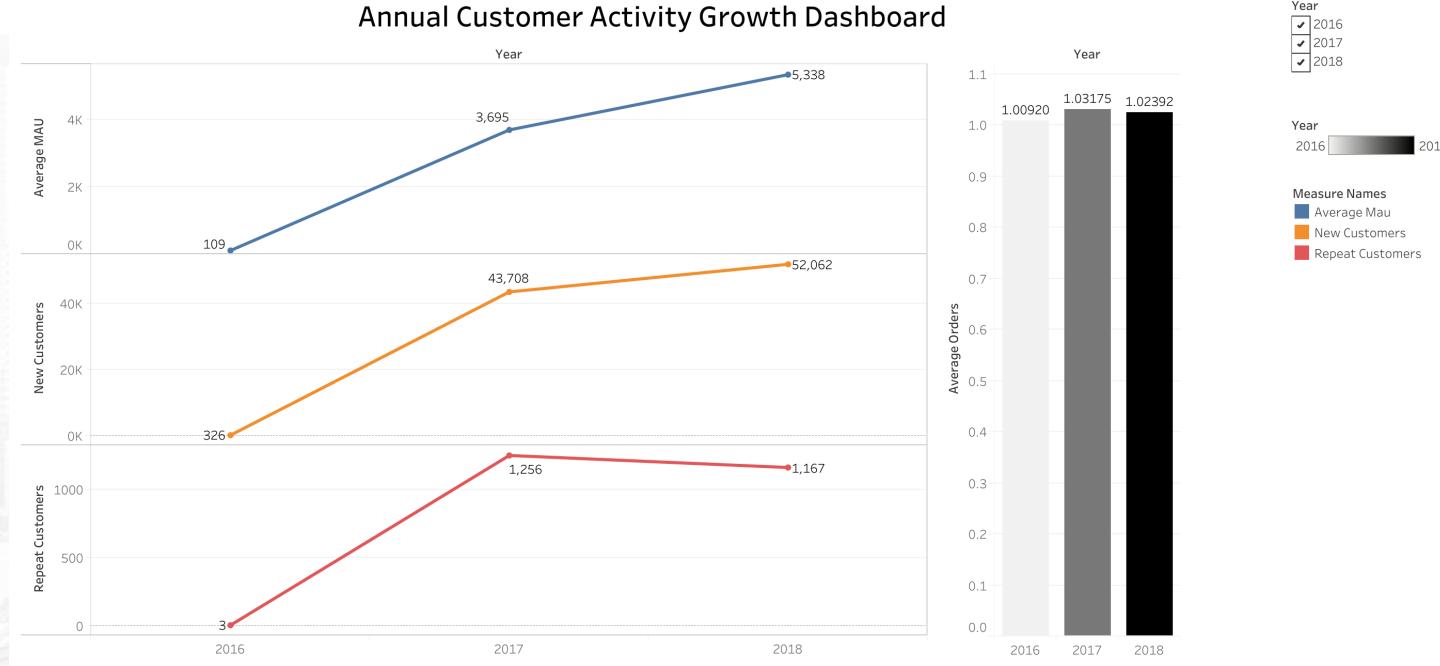
Annual Customer Activity Growth Analysis

	year double precision	average_mau numeric	new_customers bigint	repeat_customers bigint	average_orders numeric
1	2016	108.7	326	3	1.0092024539877301
2	2017	3694.8	43708	1256	1.03175256788598357468
3	2018	5338.2	52062	1167	1.02392462416349125102

Table:

Here are query result using table **orders** and **customers**.

Annual Customer Activity Growth Analysis



Interpretation:

- The growth of **new customers** and **monthly active user (MAU)** are **increasing** every year.
- Most of the customers only did a **single purchase** for 3 years. Moreover, the value of customers who did **more than one purchase** every year (**repeat customers**) are **decreasing** from 2017 to 2018.

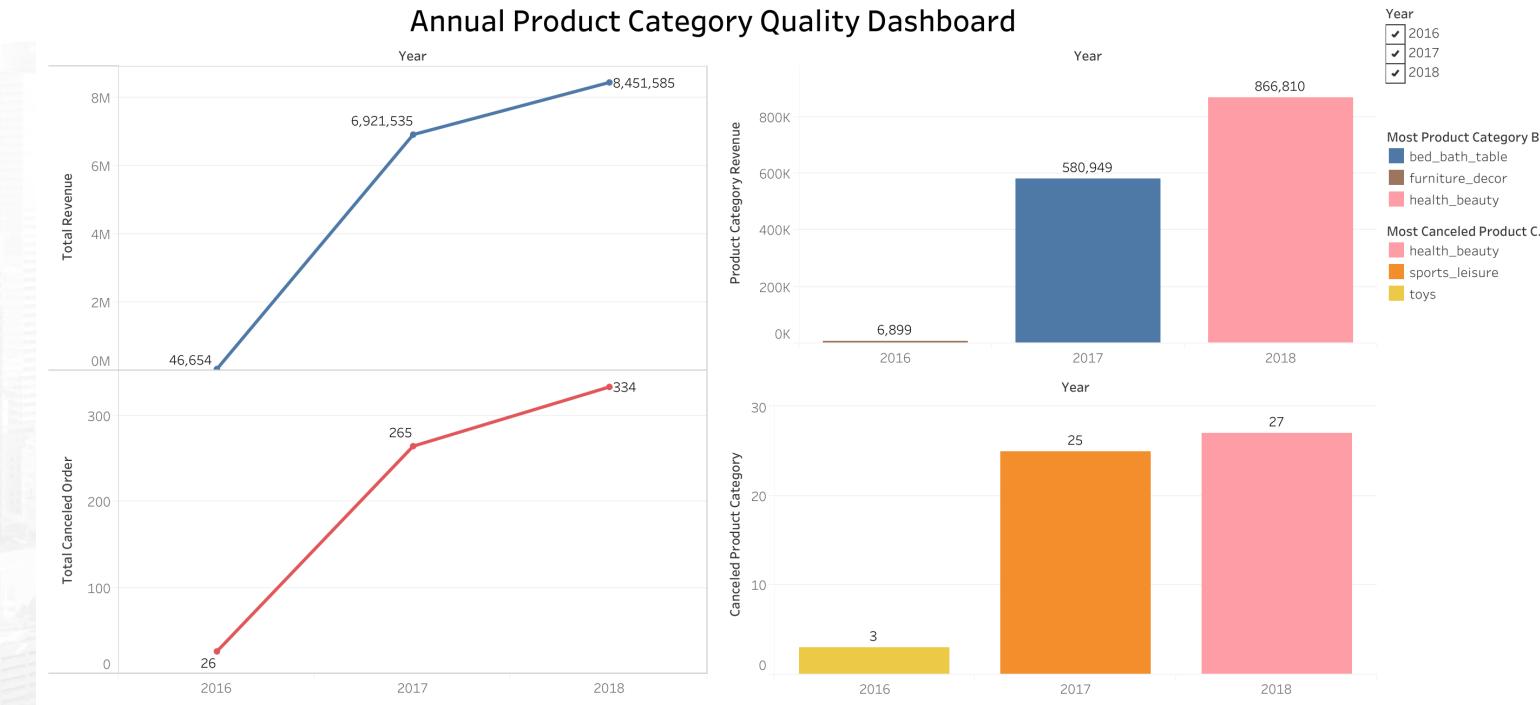
Annual Product Category Quality Analysis

	year double precision	most_product_category_by_revenue character varying	product_category_revenue numeric	total_revenue numeric	most_canceled_product_category character varying	canceled_product_category bigint	total_canceled_order bigint
1	2016	furniture_decor	6899.35	46653.74	toys	3	26
2	2017	bed_bath_table	580949.20	6921535.24	sports_leisure	25	265
3	2018	health_beauty	866810.34	8451584.77	health_beauty	27	334

Table:

Here are query result using table **orders**, **order_items**, and **product**.

Annual Product Category Quality Analysis



Interpretation:

- Total company **revenue** keep **increase** each year with following by product category that always **change**.
- Health & beauty** is a category that has **the most revenue** but also **the most canceled order** in 2018. This could be health beauty is **the most dominated category in 2018**.

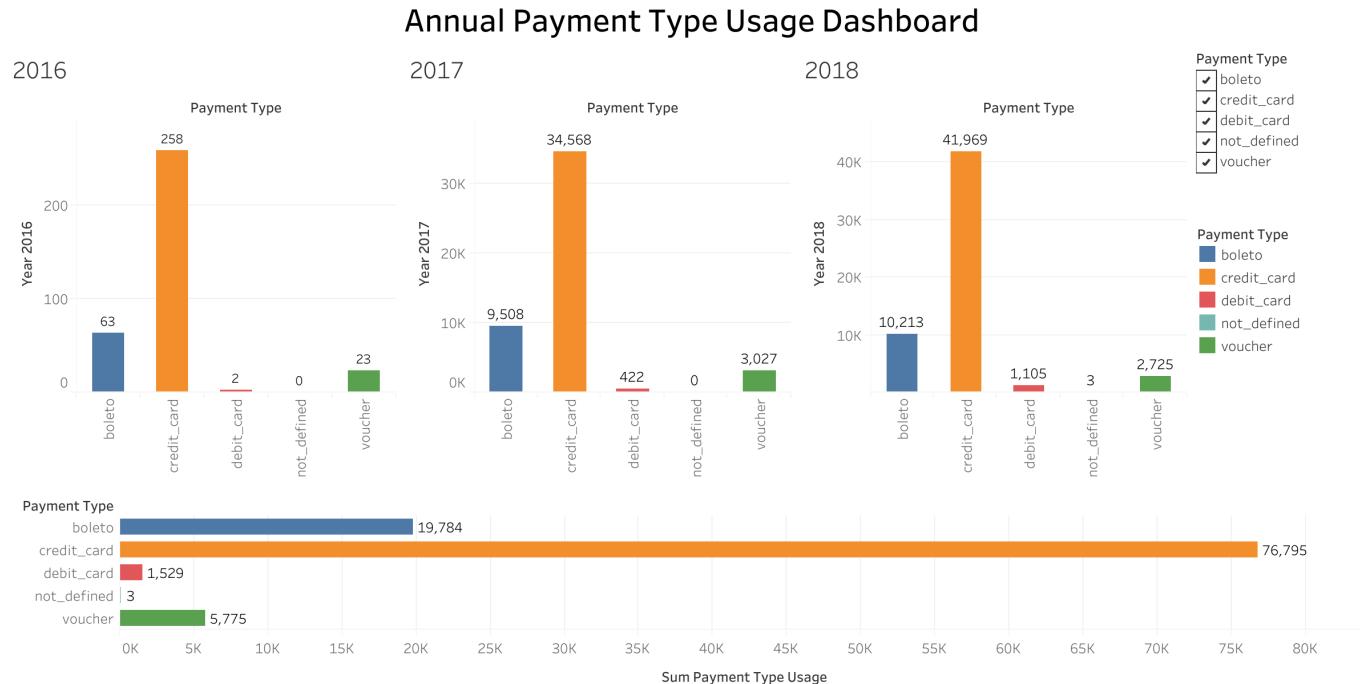
Annual Payment Type Usage Analysis

	payment_type character varying	year_2016 numeric	year_2017 numeric	year_2018 numeric	sum_payment_type_usage numeric
1	credit_card	258	34568	41969	76795
2	boleto	63	9508	10213	19784
3	voucher	23	3027	2725	5775
4	debit_card	2	422	1105	1529
5	not_defined	0	0	3	3

Table:

Here are query result using table **order_payments** and **orders**.

Annual Payment Type Usage Analysis



Interpretation:

- Credit card is the most favorite payment type based on sum payment type usage.
- Voucher tend to be decrease from 2017 to 2018. Besides, debit card tend to be increase significantly more than 100% since 2016.



Thank you!

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