

Analyzing eCommerce Business Performance with SQL



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“Fresh Graduate with a strong interest in data, analysis and technology. Successfully graduated with 3.70 GPA in Law with focus on Administrative Law State. Analytical team player with Spereadsheet, SQL & Data Visualization tools experience to build and manage data. Committed to developing skills in data analysis that helps organizational efficiency.”

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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, in this paper, we will analyze business performance for an eCommerce company, taking into account several business metrics that is customer growth, product quality, and payment types.”

- at this initial stage of data preparation, the data obtained is still in the form of raw data in the form of csv. The first thing to do is import the raw data into the RDBMS (PostgreSQL) with the following steps:
 1. create a database named “project1” on pgAdmin
 2. create a table according to the number of datasets, and input the columns and data types.
 3. import datasets according to their tables.
- after all tables are filled with their dataset, the next step is to create an Entity Relationship Diagram, so the data can be easily understood.
- In making an ERD, the first step is to determine the primary key and foreign key for each table, then by using the pgAdmin tool, "Generate ERD", create a connection scheme between the tables.

Data Preparation



for annual customer activity growth analysis report, we use table orders and customer from database. to get the data we use query to get the data from database. you can see the query in here :

<https://docs.google.com/document/d/1JP8pYg6TTbklrLOzhoY3TVHHMF84TFXBP6KawqbRphc/edit?usp=sharing>

this annual customer activity growth analysis have 4 point to highlight :

1. Average monthly active user per year.
2. Total new customer per year.
3. Total customer with repeat order per year.
4. Average customer order frequency per year.

Annual Customer Activity Growth Analysis

year	▼ Average monthly active user	▼ New customer	▼ customer repeat order	▼ avg order
2016	109.67	329	3	1.01
2017	3758.42	45101	1256	1.03
2018	5401.10	54011	1167	1.02

from this table we can see that :

1. for Average monthly active user, New customer and customer repeat order. there a massive growth between 2016 to 2017.
2. in 2018, number of customer repeat order decreased but not too significant.
3. but on the Average customer order frequency didn't have significant movement.

Annual Product Category Quality Analysis

this section about analysis products quality, there are 4 point to highlight :

1. Total revenue per year.
2. Number of cancel order per year.
3. Highest-grossing product category.
4. Top Product category with number of cancel order.

Annual Product Category Quality Analysis

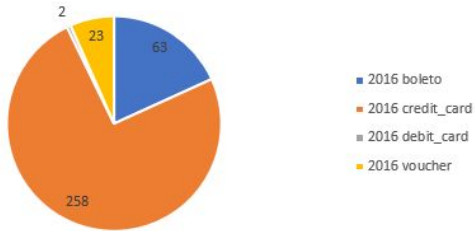
years	revenue	total cancel order	category_selling	revenue-2	cancel_category	cancel_product
2016	46653	26	perfumery	2958	toys	3
2017	6784154	265	computers	50326	sports_leisure	25
2018	8588643	334	health_beauty	54891	health_beauty	27

from this table, we can see that :

1. Total revenue increasing every year.
2. Total cancel increase every year.
3. Every year there is different highest-selling product category (2016-perfumery, 2017-computers, 2018-health beauty).
4. Just like selling product, every year there is different cancel order product category (2016-toys, 2017-sports leisure, 2018-health beauty).

Analysis of Annual Payment Type Usage

Payment type usage by year



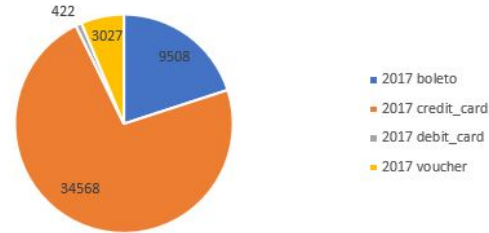
years

2016

2017

2018

Payment type usage by year



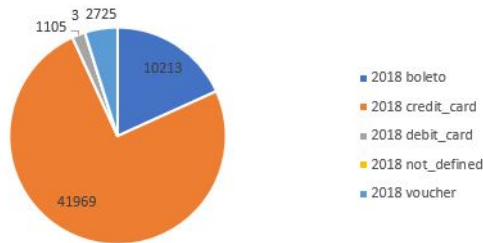
years

2016

2017

2018

Payment type usage by year



years

2016

2017

2018

from that table, we can see that :

1. from every year, payment type have increase usage.
2. credit card still be top usage every year