



Analyzing eCommerce Business Performance with SQL

by Erlando Regita

Profile



I graduated bachelor's degree from Bandung Institute of Technology, School of Business and Management, Business degree. I have a big passion for data-related activities. I implemented **data-driven decision-making and root-causes analysis** to solve every challenge in my work.

Apart from that, I also have a passion for data science. I graduated from Data Science Bootcamp with an **outstanding grade**. In the final project, I was also assigned as the **team leader** and **won** a nomination as the **best outstanding team** in the final project award. I have a strong interest in data science and analytics, I enjoy learning, working with stakeholders, and making better decisions with data



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Table of Content



Data Preparation (Build an Entity Relationship Diagram)



Annual Customer Activity Growth Analysis

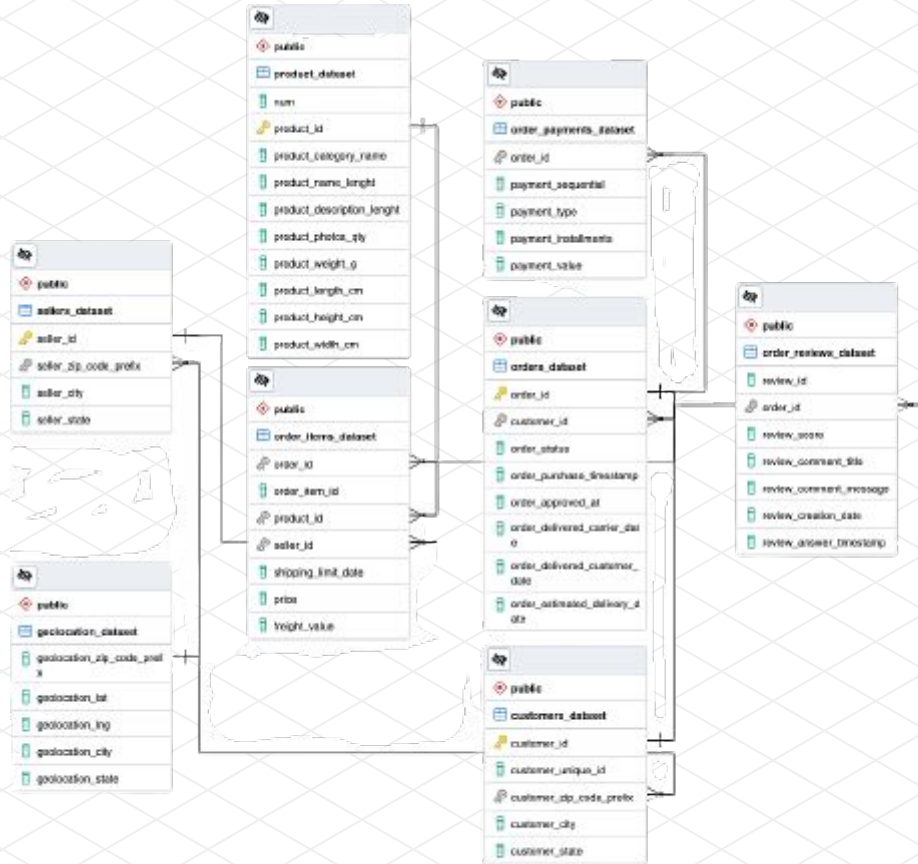


Annual Product Category Quality Analysis



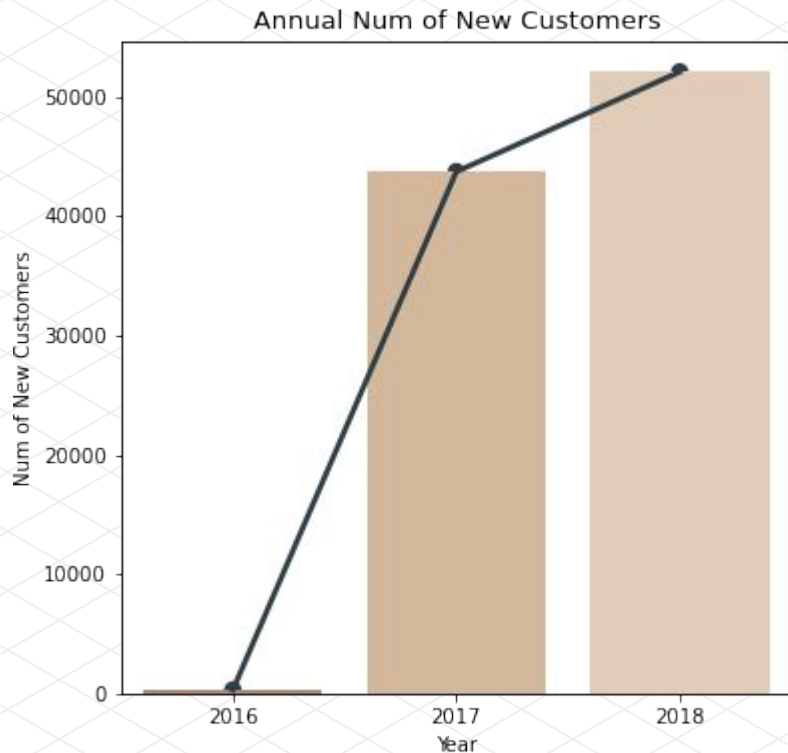
Annual Payment Type Usage Analysis

Entity Relationship Diagram



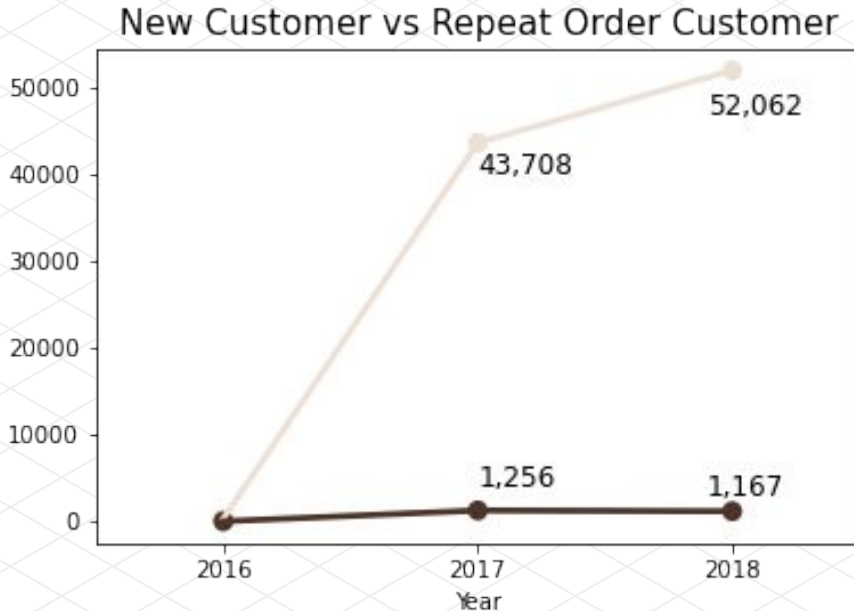
This diagram shows the relationships between tables. This diagram can help identify data flows and operations throughout the system more easily and create a well-designed database.

Annual Customer Activity Growth Analysis



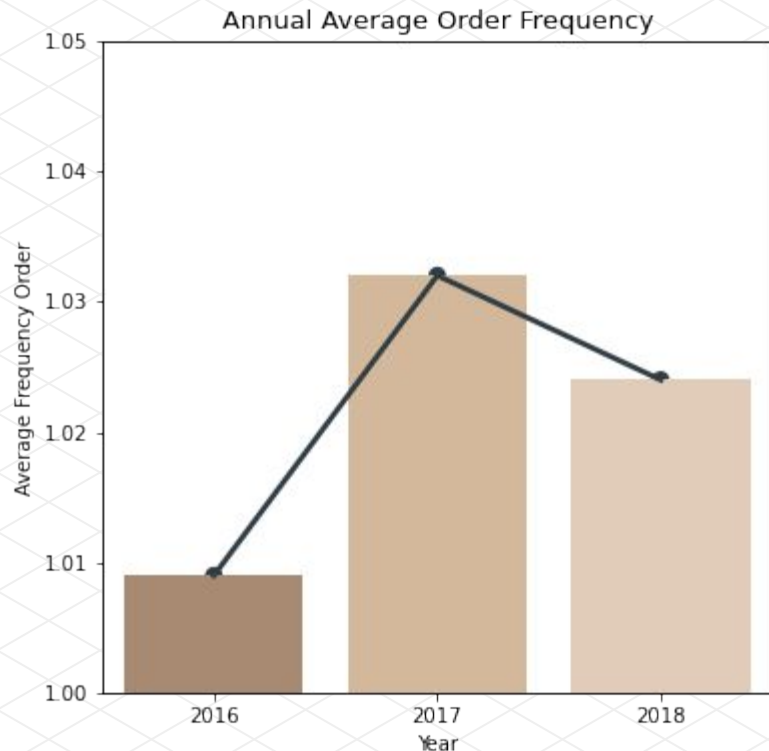
Every year, there is an increase in the average number of users per month. In 2016, data start recorded on September, so the values become smaller than other years. by looking at the difference in the increment 2017-2018, there is still space for user growth in the following years. This indicates that the company has good growth in increasing the number of users. We need to do further analysis what cause of increasing customer and how we can maintain it.

Annual Customer Activity Growth Analysis



Every year, there is an increase in new customer. But it's not good metrics to say that our business is running good. In 2016, data start recorded on September, so the values become smaller compared to other years. **we have quite low number of repeat order every year.** Since from the rule of thumb, retaining existing customer is cheaper than gaining the new one, we should evaluate our marketing campaign. We have to increase our focus to get more repeated order in the next following years.

Annual Customer Activity Growth Analysis



In average, our customers only buy once every year. In the long run, this is not good for our company, we have to increase order frequency to get more loyal customer. In the long run, maintaining loyal customer is the way more cheaper and more profitable than gaining the new one.

Annual Product Category Quality Analysis

	year	total_revenue	num_canceled	top_category_revenue	revenue_category	top_category_canceled	num_category_canceled
0	2016	46654	26	furniture_decor	6899	toys	3
1	2017	6921440	265	bed_bath_table	580949	sports_leisure	25
2	2018	8451599	334	health_beauty	866810	health_beauty	27

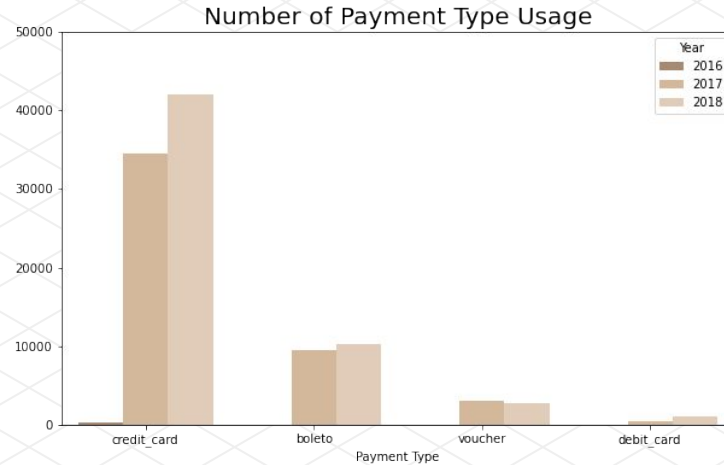
Although 2016 was recorded from September, based on the 2017-2018 difference in the revenue variable and the number of items canceled, **we can conclude that there is an increase in revenue and the number of items canceled every year**. The interesting thing here is that in 2018 the category that greatly contributed to revenue and the number of items canceled was the **health_beauty** category, **this indicates that in that year there was a trend in the health_beauty category**. Further analysis can be done to confirm this.

Analysis of Annual Payment Type Usage

	year	credit_card	boleto	voucher	debit_card	not_defined
0	2016	258	63	23	2	0
1	2017	34568	9508	3027	422	0
2	2018	41969	10213	2725	1105	3

In general, with the same assumption as before, **every year each type of payment has increased**, this can happen due to the addition of the number of users every year. And there are a few payments that are not recorded where they come from, this is possible because of bugs, system errors, or other technical things.

Analysis of Annual Payment Type Usage



[Query Documentation](#)

In general, the payment method that tends to be in demand is credit cards, so that further analysis can be carried out on customer habits in using credit cards, for example such as the selected tenor, favorite provider platform, what product categories are usually purchased with credit cards, current vouchers. taking place, etc.

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 actually decreased from 2017 to 2018.

This may be due to promotions/collaborations with certain debit cards, the expiration of the promotional period, and the reduction of promotional methods using vouchers. Further analysis can be done by confirming with other departments.

Thank You