

# Data analysis to diagnose satisfaction of E-commerce clients through payment indicators

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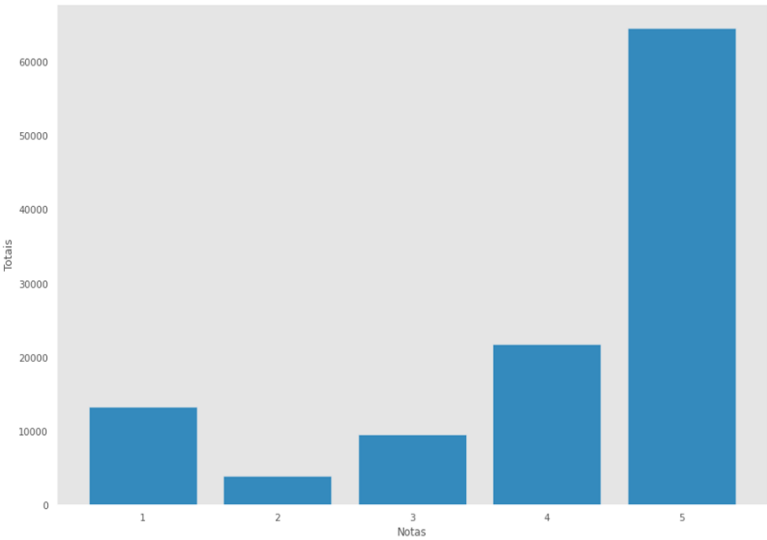
**Abstract:** We'll introduce about Data Analysis for customer satisfaction diagnosis in E-commerces through payment indicators This work was the result of the final work presented in the Applied Statistics subject taught by professor Paulo Canas Rodrigues, the first subject of the course of graduate students in Data Science and Big Data.



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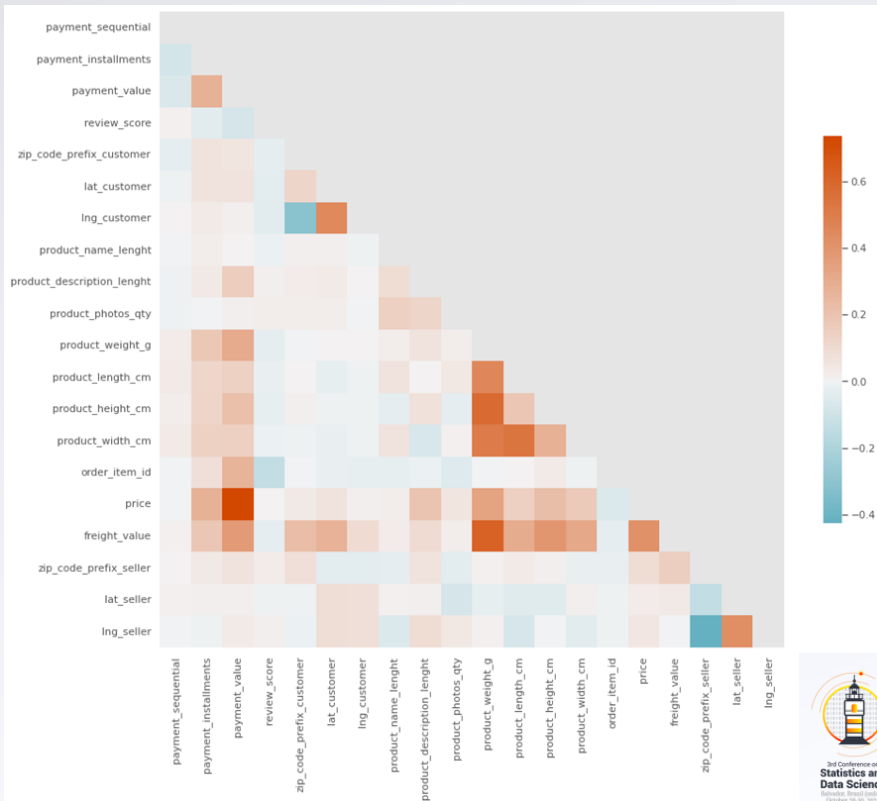


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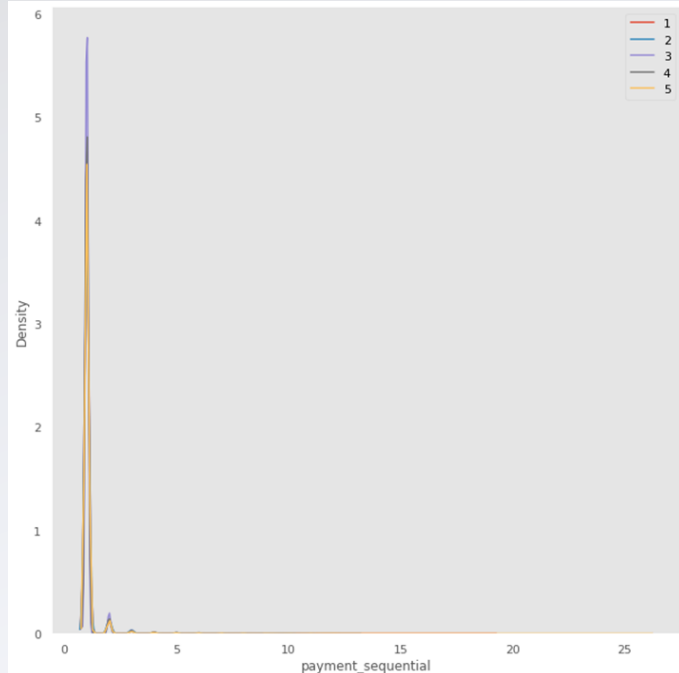
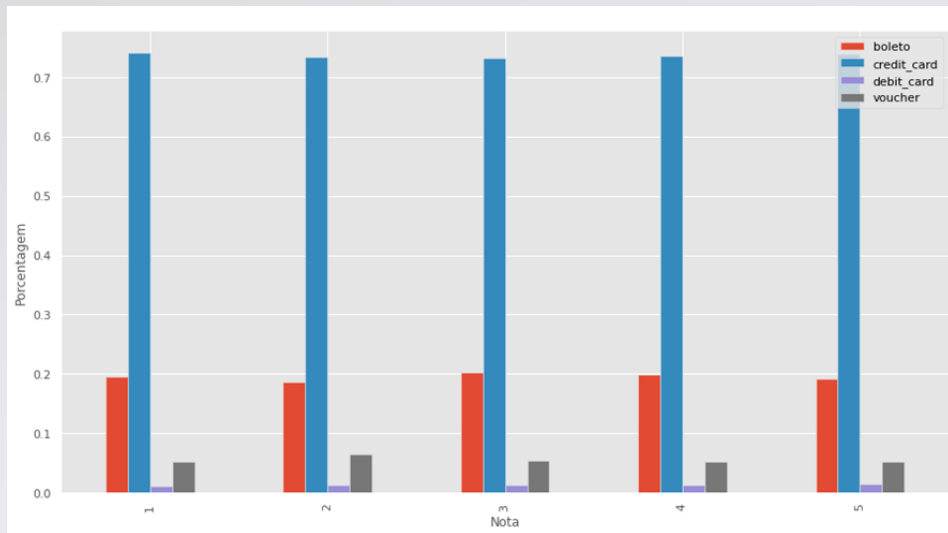


In this approach we evaluate the categorical variable "review\_score" which has a range from 1 to 5 and how these scores are related to payment variables adopted by customers.

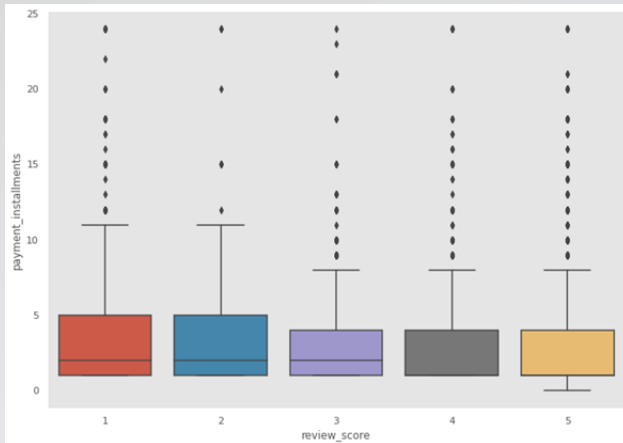
The heat map provided a good starting point for evaluating the general panorama of correlations between the main numerical variables in the study.



## The correlation between 'payment\_type' and 'review\_score':



The relationship between “payment\_sequential” and “review\_score”.



The Boxplot of relationship between "review score" and "payment installments"

## The correlation between "review score" and "payment\_value"

```

Percentil em 50%
review_score
1    137.570
2    119.245
3    107.780
4    104.610
5    104.430
Name: payment_value, dtype: float64
*****

Percentil em 75%
review_score
1    241.220
2    212.320
3    188.340
4    182.290
5    180.135
Name: payment_value, dtype: float64
*****

Percentil em 80%
review_score
1    284.550
2    247.640
3    218.270
4    208.634
5    207.274
Name: payment_value, dtype: float64
*****

Percentil em 85%
review_score
1    350.220
2    297.950
3    260.140
4    249.670
5    244.803
Name: payment_value, dtype: float64
*****

```

We noticed through the percentiles that the variable "payment\_value" has an influence on the "review score". This means that customers who bought products with higher prices tend to give lower ratings.

# Thanks!

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