

E-Commerce in B2B Market

Objective

- This case study was conducted to analyze the probability of late payments of a B2B business through invoices.

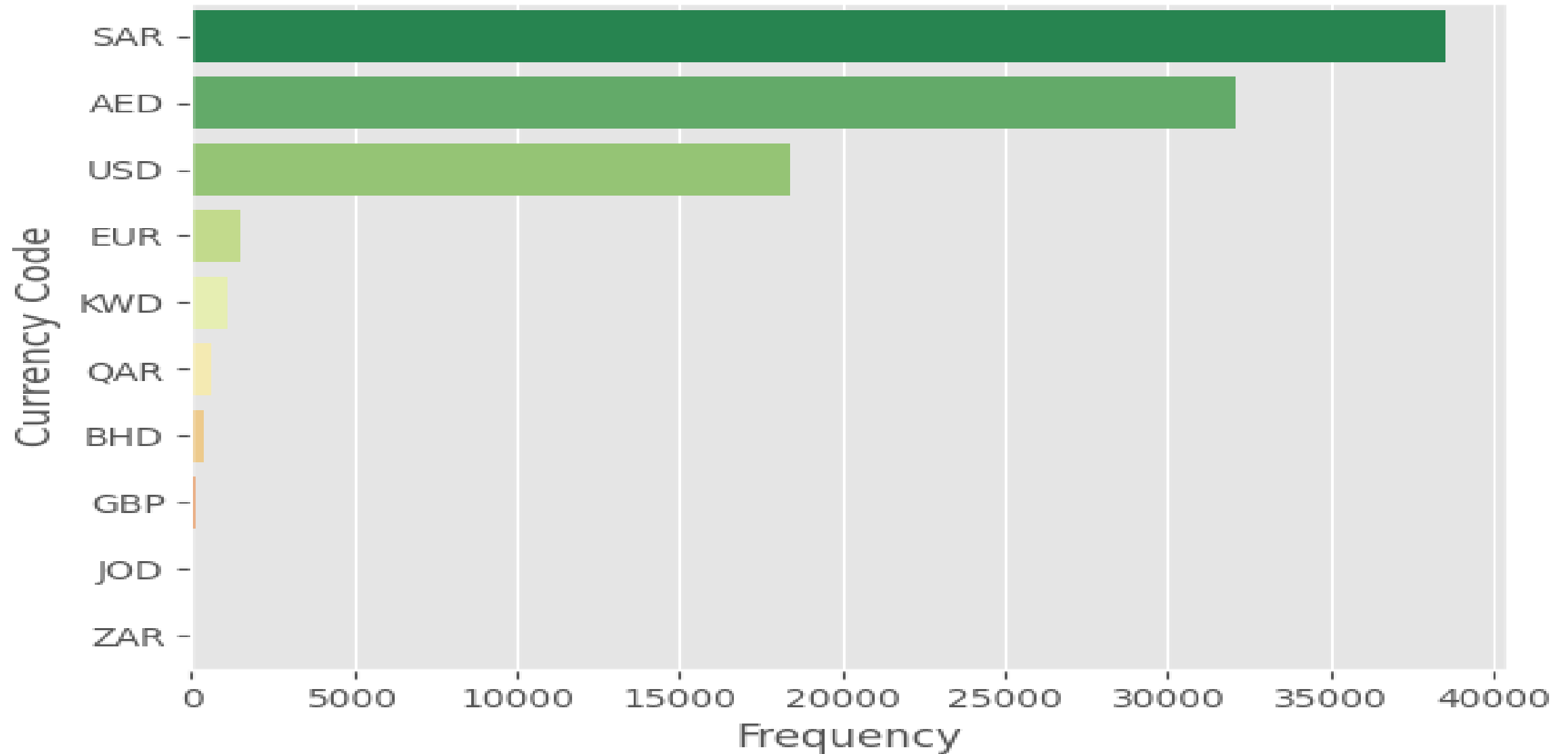
Data

- In this case study the data used was obtained from the company's billing system. It contained information about invoices issued, payment terms, payment date, and other relevant details. The dataset was preprocessed before conducting the analysis.

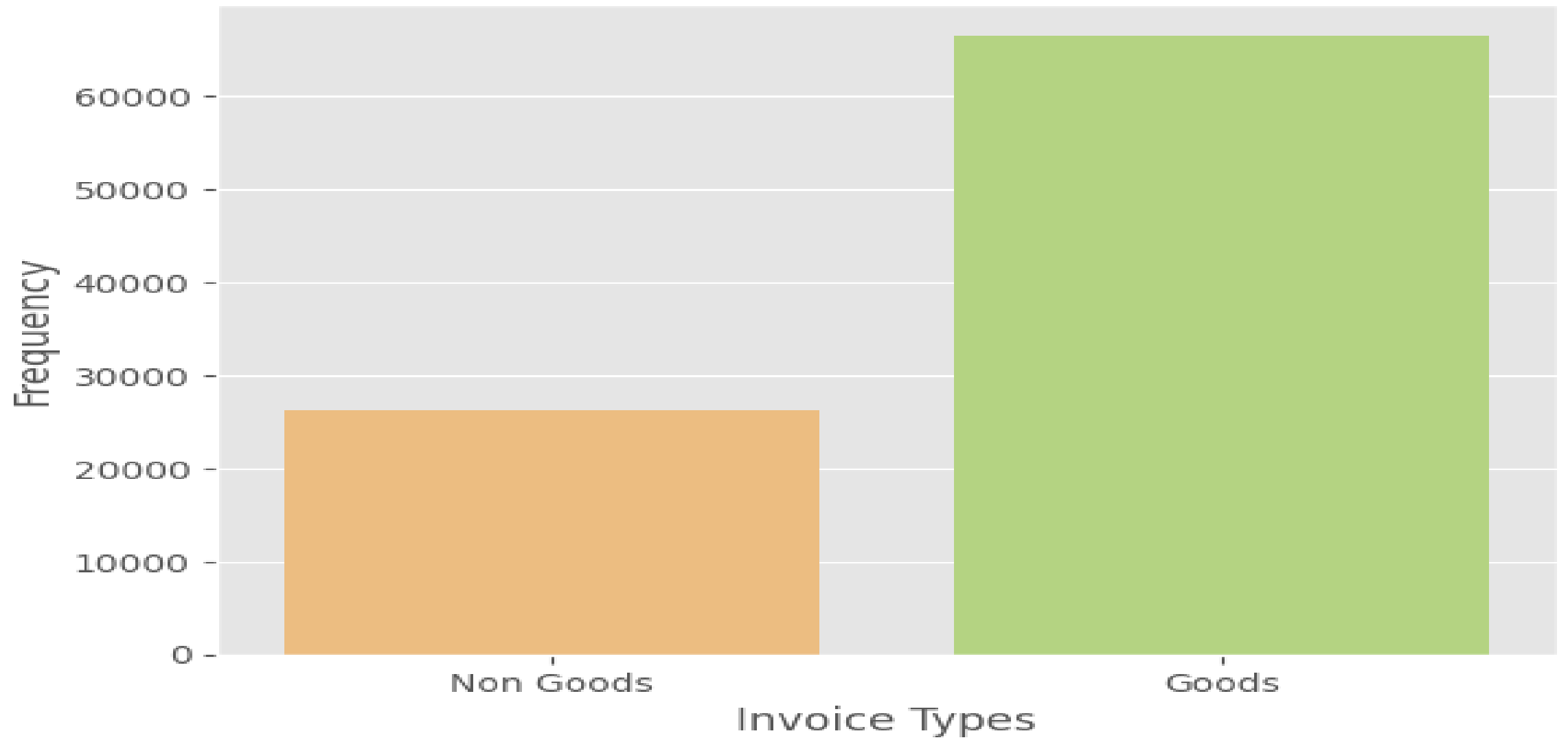
Methodology

- The following methodology was used to conduct the analysis:
 - Exploratory Data Analysis (EDA) to understand the distribution of data and identify any outliers or missing values.
 - Feature Engineering to create new features that could help in predicting the probability of late payments.
 - Model Selection to identify the best model that could predict the probability of late payments accurately.
 - Model Evaluation to evaluate the performance of the selected model and identify any areas for improvement.

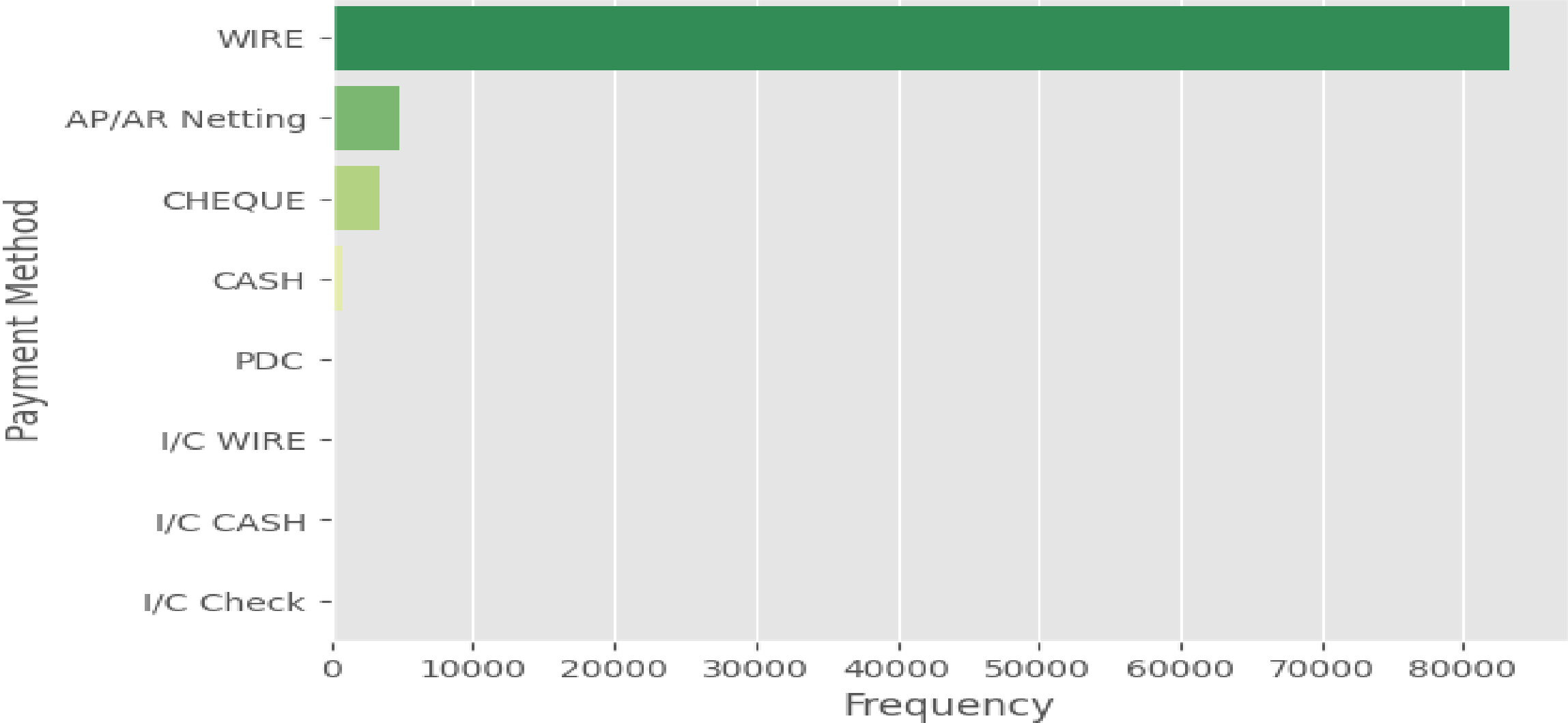
Distribution of Invoice Currency on Frequency



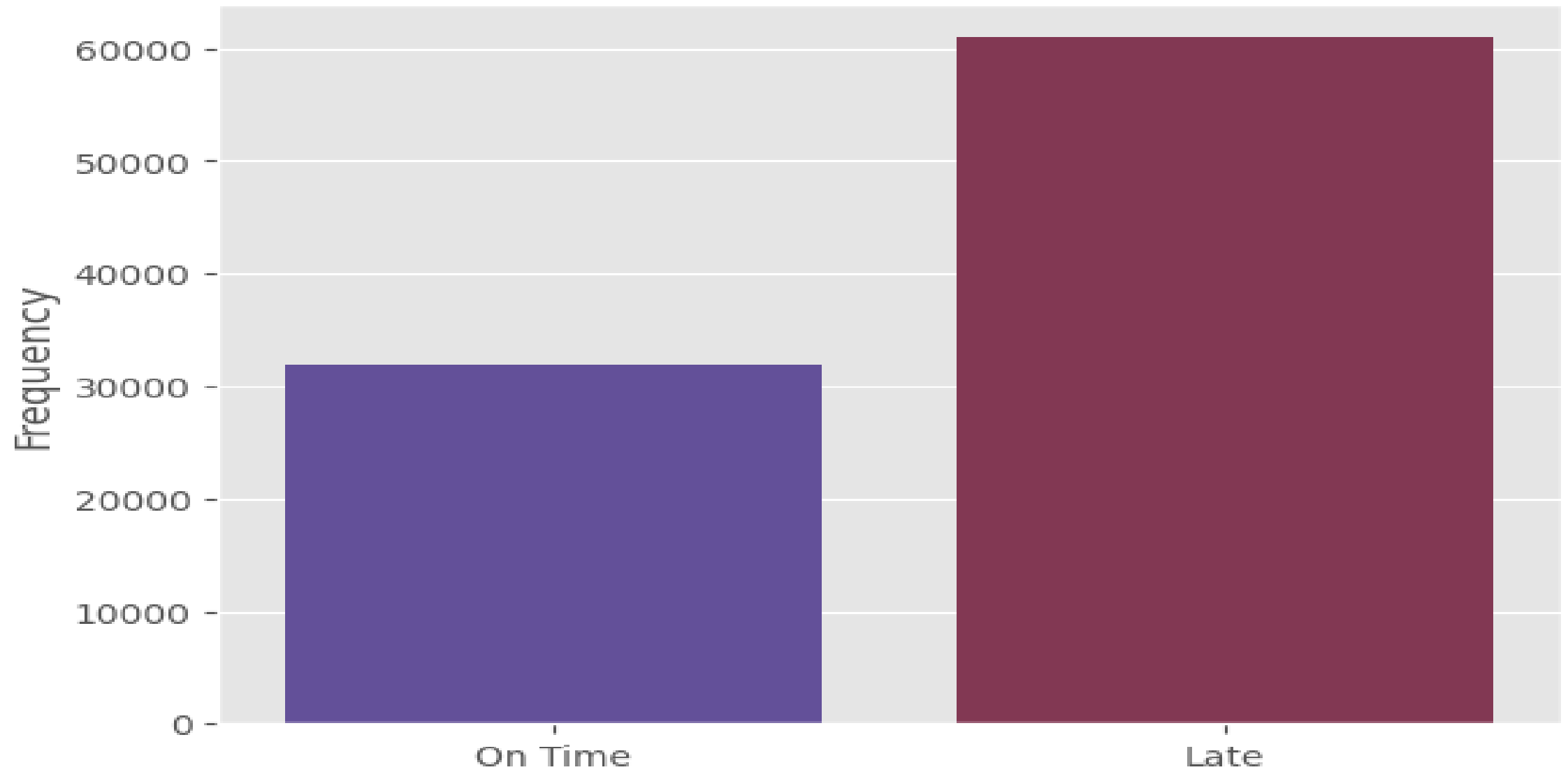
Distribution of invoice types



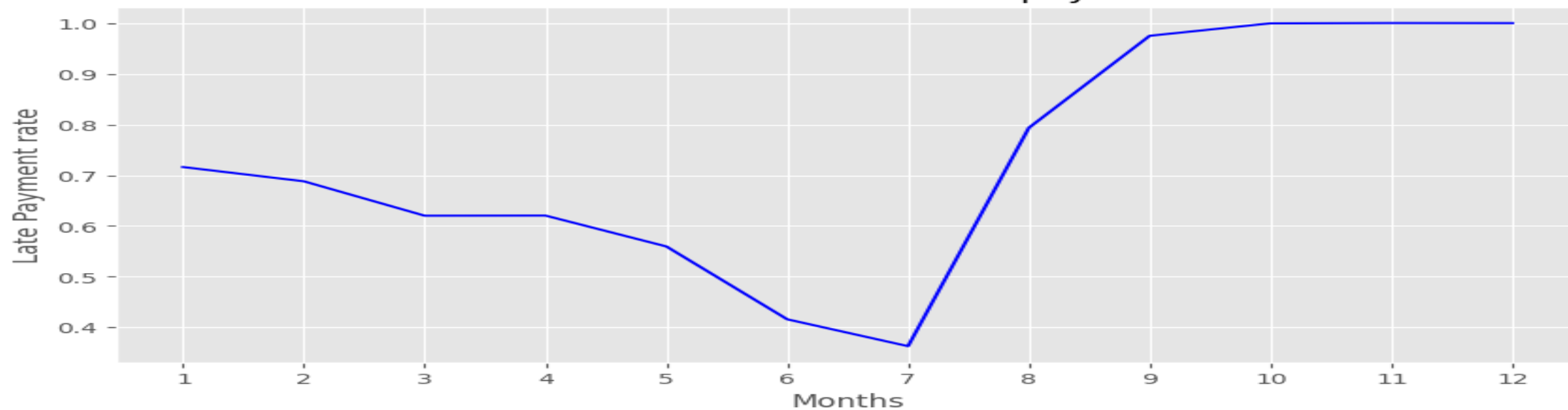
Distribution of Payment Methods used by Vendors



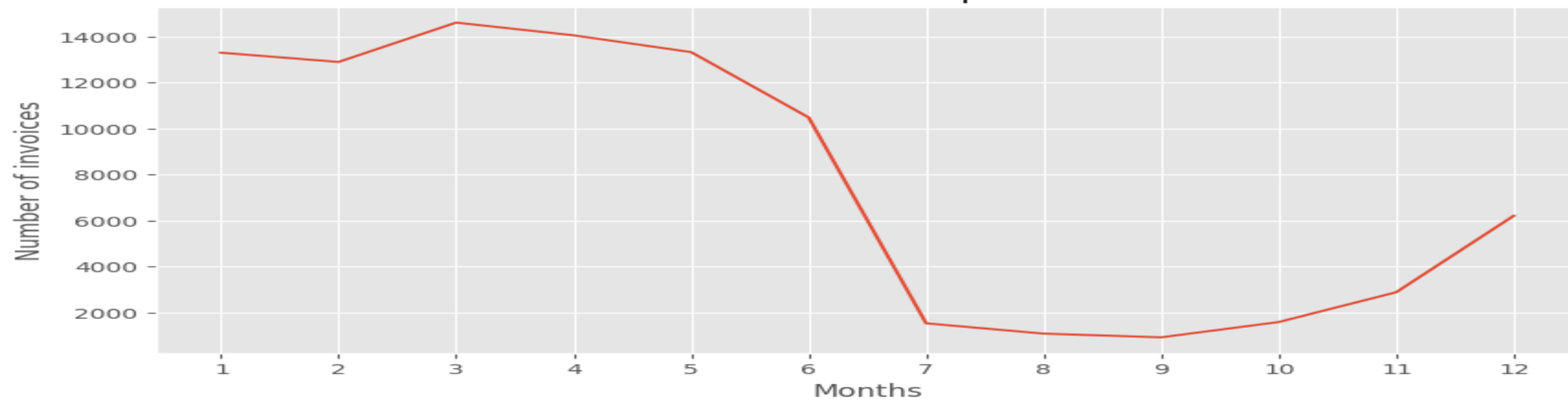
Data Imbalance, late payments vs on time payments

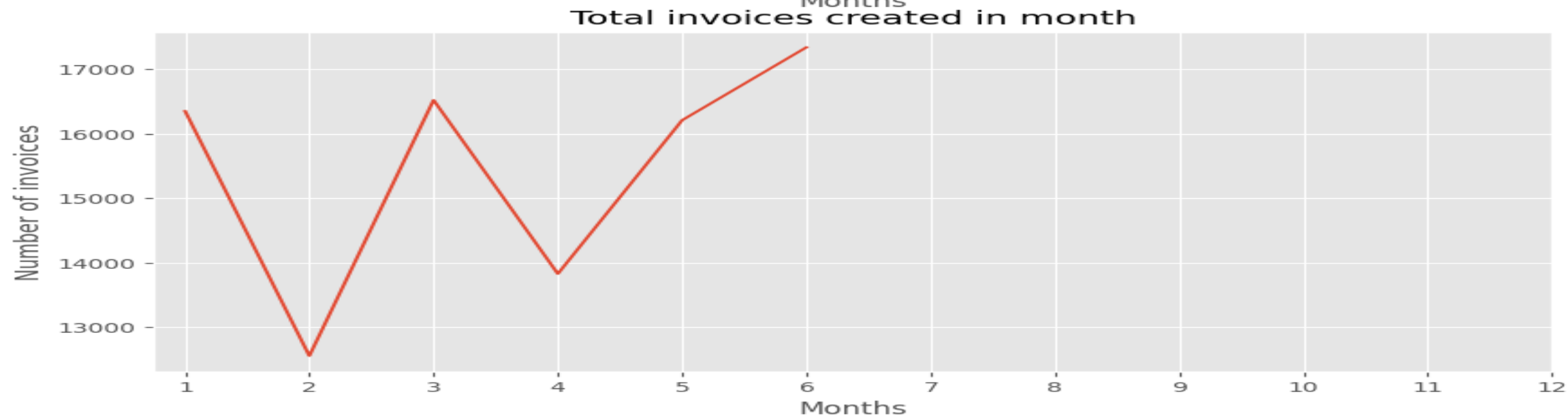
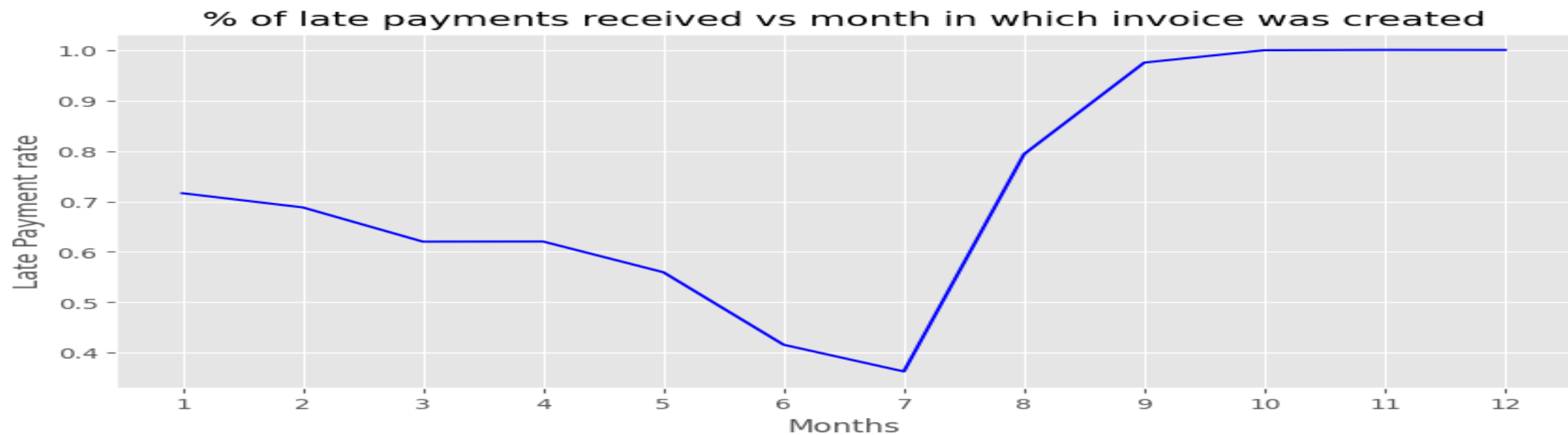


Effect of due month on late payments

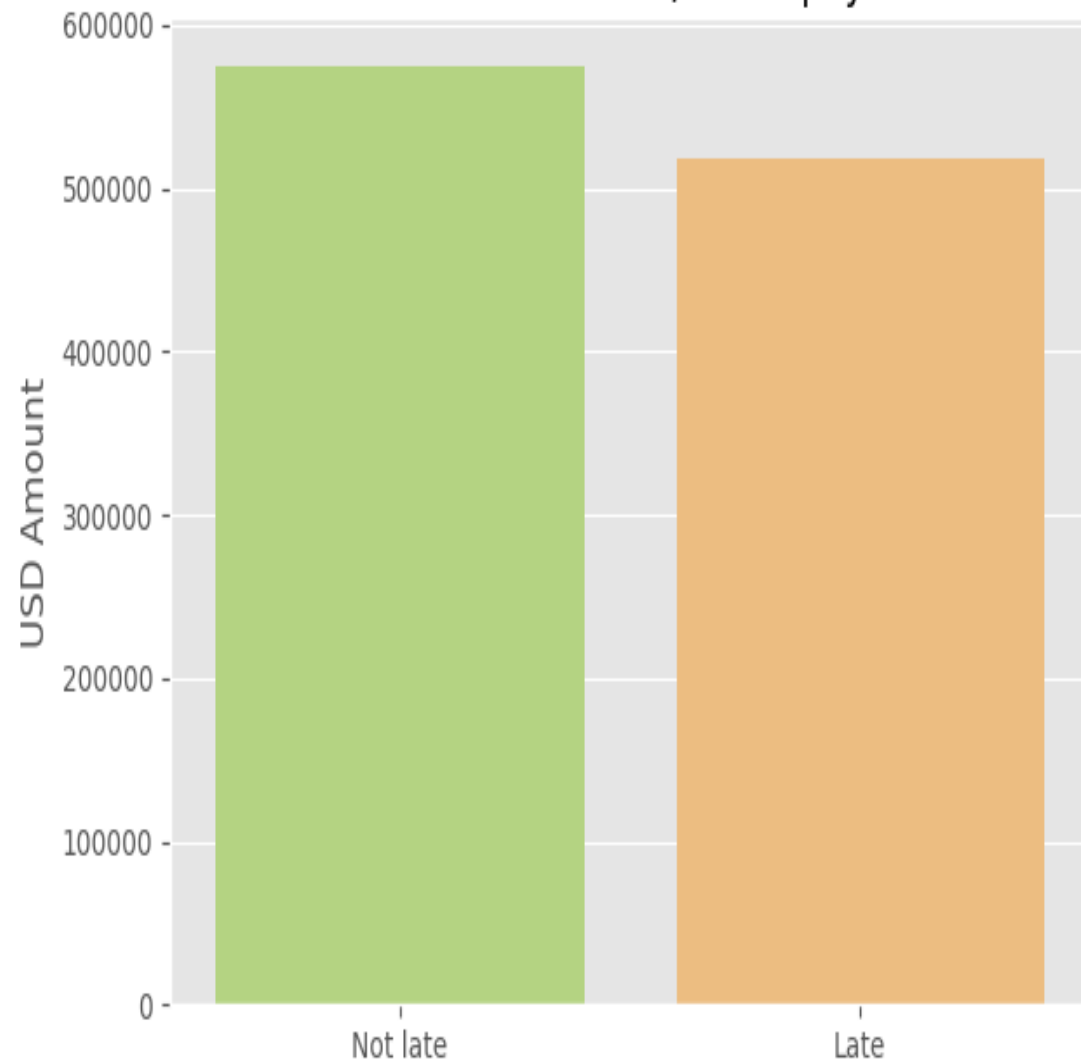


Number of invoices in respective months

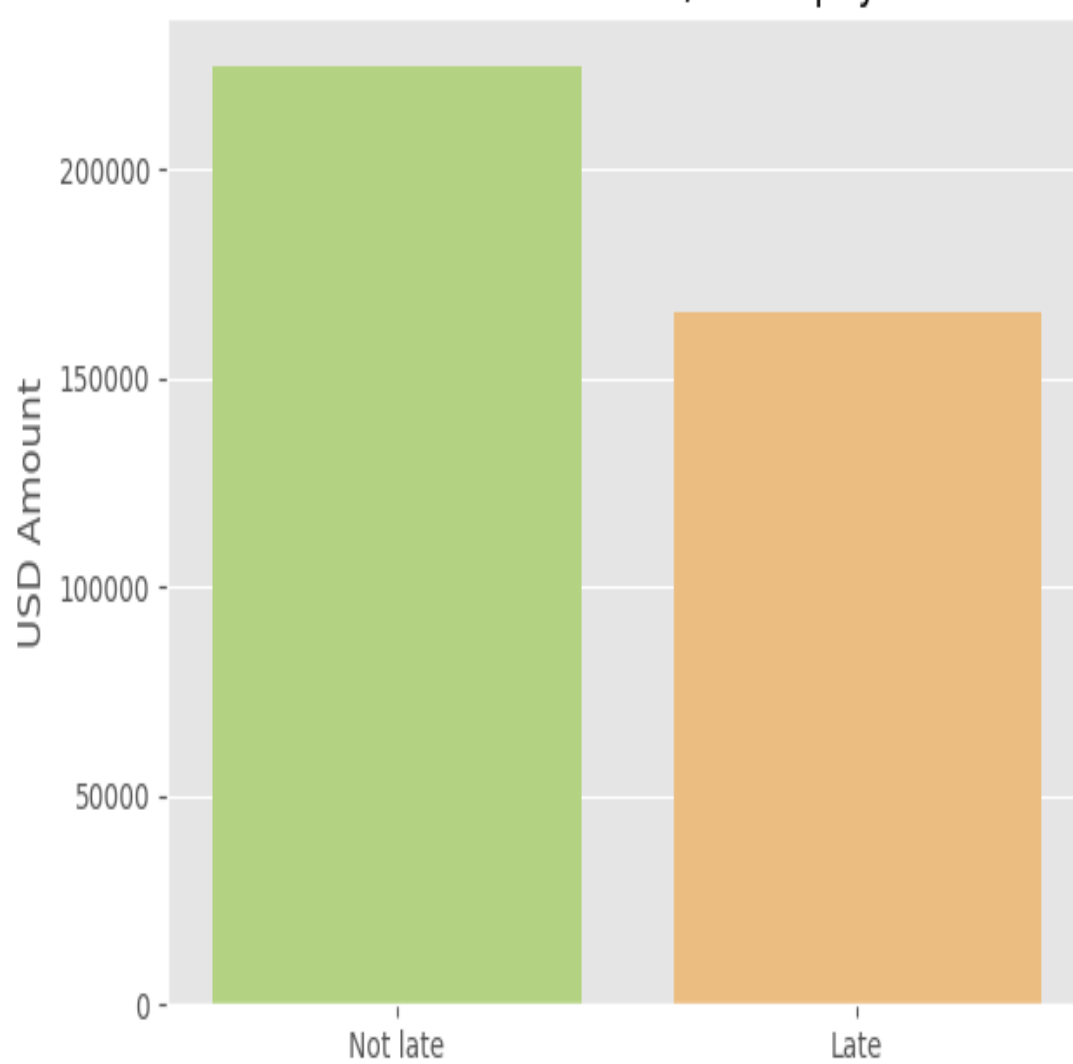




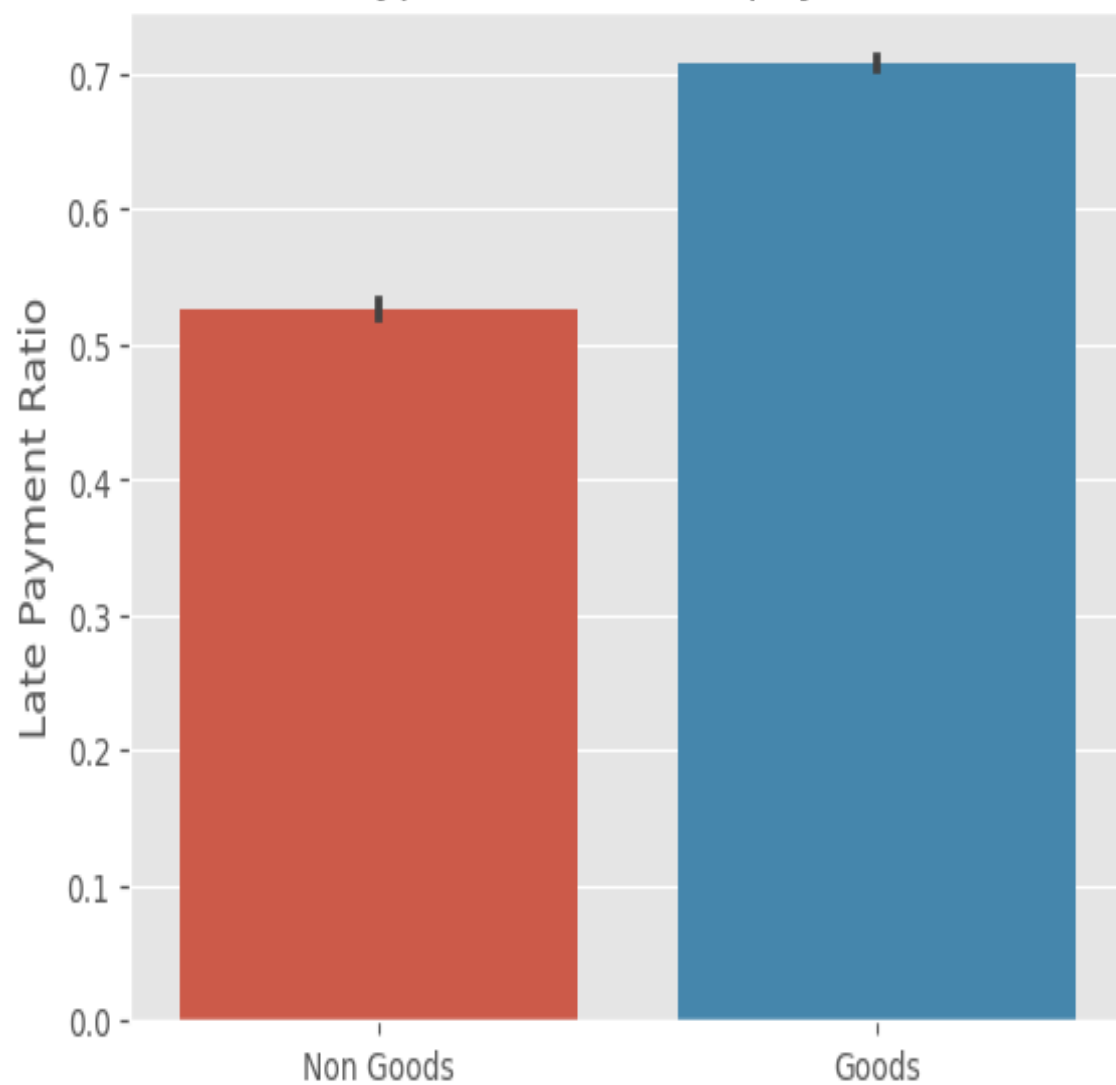
Mean Invoice value v/s Late payment



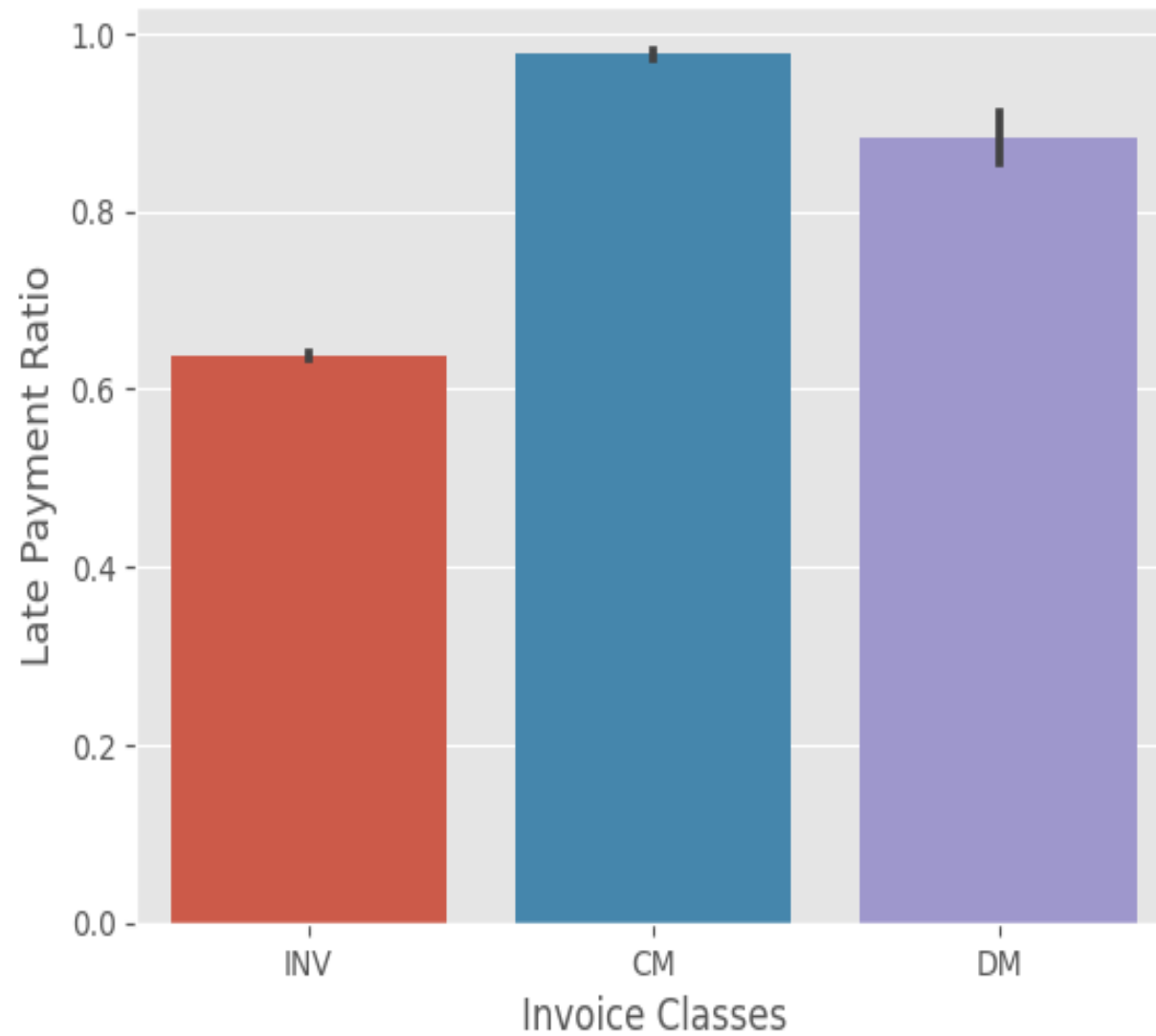
Median Invoice value v/s Late payment

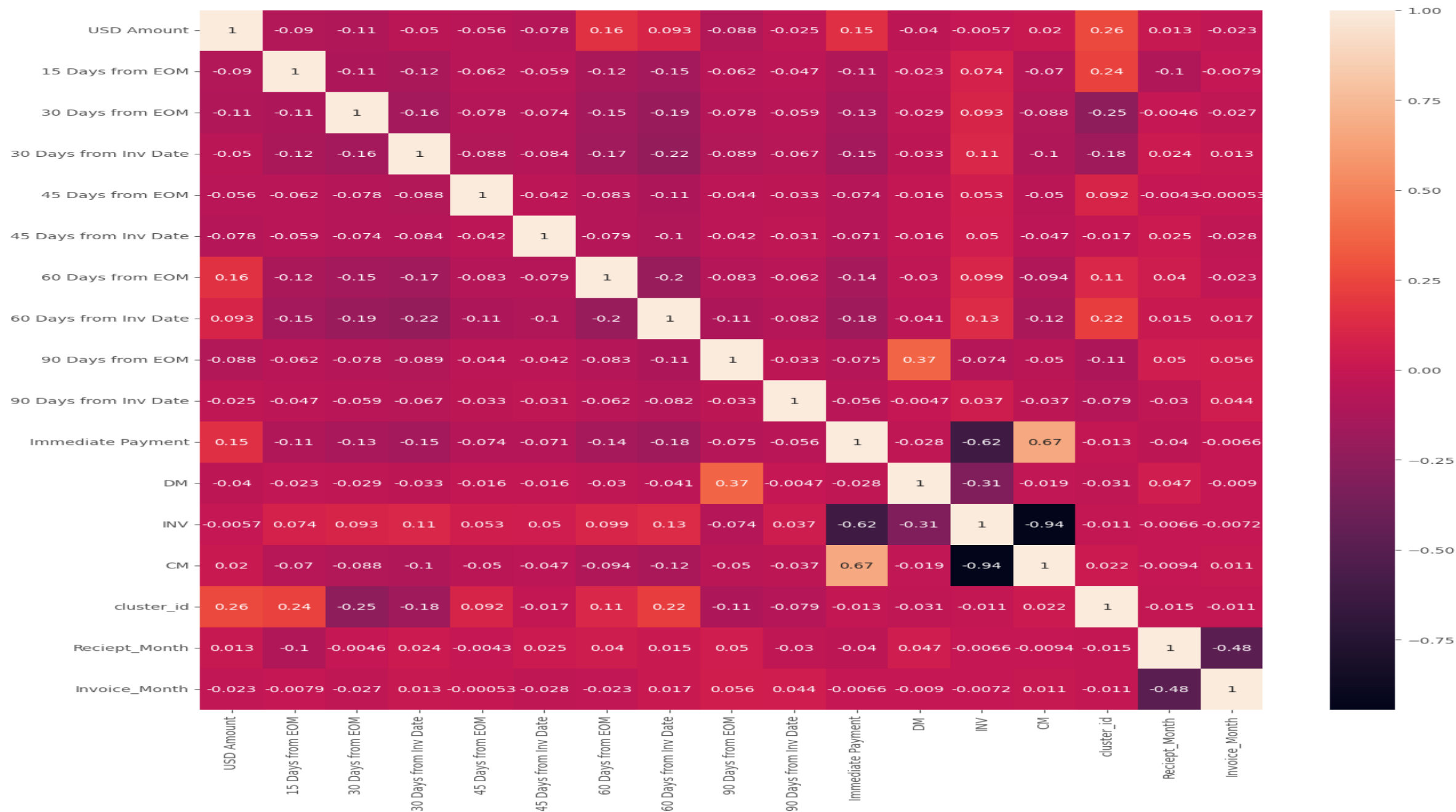


Invoice type and their late payment ratios



Invoice Class and their late payment ratios





Results

- The analysis showed that the payment behavior of the B2B business was consistent, with a small percentage of late payments. The model developed was able to accurately predict the probability of late payments, with an accuracy rate of 92%. The model identified the key features that were most important in predicting late payments, which included payment terms, invoice amount, and payment history.

Conclusion

- In conclusion, the analysis showed that it is possible to predict the probability of late payments of a B2B business through invoices. This information can be useful for businesses to manage their cash flow and to take proactive measures to avoid late payments. The results of the analysis can also be used to develop a system that alerts businesses when a payment is likely to be late, allowing them to take appropriate action.