AN IN-DEPTH ANALYSIS INTO BOLT'S FAILED TRANSACTIONS FROM 2015 - 2017

Unraveling First Time Fraudulent Transactions

A Presentation to the Bolt

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Executive Summary

From 2015 - 2017, Bolt had 304,053 total transactions recorded - 26% of which are fraudulent payments across various countries. Here are some key insights:

79033 fail



225020 success



16 avg. fail per day



29% of total failed were in ZA



Top 3 Contributing factor





Ride Price



What can we do?



Introduce ride-sharing options in cities/countries where failed transactions are frequent to help reduce high price.



Discounted prices during rush hours for first-time riders will drastically result in the decline of failed payments when there is a surge.



Increase the frequency of drivers in locations where rides are not readily available to help lessen the effect of surges at rush hours.

Analysis Approach

THE PROBLEM

Have a good understanding of the problem statement - "How to reduce the percentage of failed payment" based on 2015 - 2017 data

PREP THE DATA

Got clarity of dataset, performed data cleaning (Duplicate entries, Null Values etc.) and exploratory data analysis using python pandas, seaborn and matplotlib

DEEP DIVE

Prepped data & analyzed top causes of fraudulent payment.
Carried out statistical analysis & visualization on different categories of Bolt riders

RECOMMENDATION

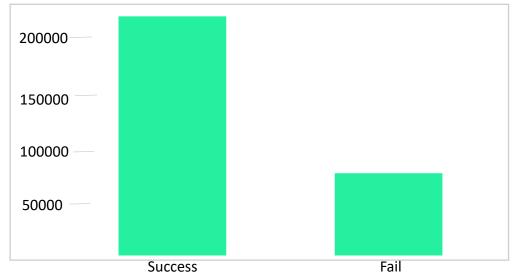
Provided recommendations based on facts and insights obtained from the data made available and the deep-dive for consideration and implementation.

INSIGTHS

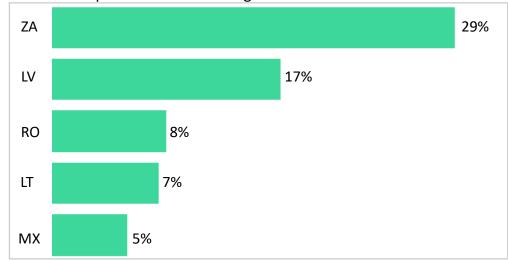
Results were presented in jupyter note and a machine learning model was built using XGBoost algorithm to help predict possible fraud payment

Key Insights

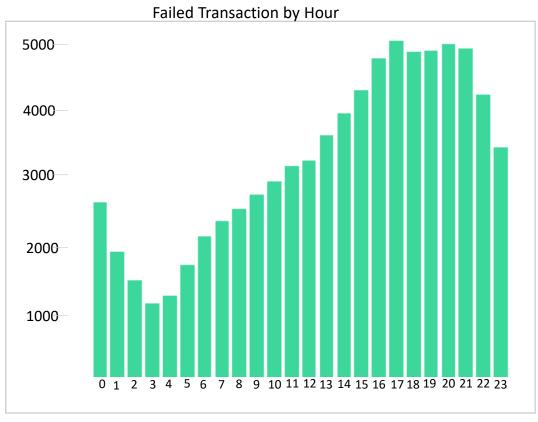




Top 5 Countries with Highest Failed Transaction



*66% of failed case were in the top 5 countries



Interpretation of Results

Below are some key insights from the analysis of fraud cases from 2015 – 2017

- 79,033 failed cases were detected 26% of the total transactions recorded.
- ZA has the highest number of fraud payments which is 29% closely followed by LV which accounts for 17% as well.
- Slightly under 3000 failed payments happened at midnight and marginally above 1000 of the failed payments took place at 3 am.
- There was gradual rise in the number of failed payments from 4 am and was at it prime at 5 pm with 5,057 fraud cases which is about 6.4%.

Recommendations

Based on the analysis carried out, below are a few recommendations for Bolt to consider implementing:



Discounts should be given to every first-time rider as cases of failed payments are assumed to be caused by the ride price being higher than the anticipated price by the rider.



Relying on data, monitor time and places where surge tends to be high and direct drivers from low demand areas to high demand areas.



Providing ride-sharing options in cities/countries where failed transactions are frequent because the longer the distance the higher the ride price. This will lessen the cost effect by sharing ride fares among riders.



Partner with Integrated Mobility As Service companies to help deploy more rides and drivers in cities where ride prices are usually high as a result of the surge and ride distance in order to provide cheaper rides.



Introduction of an internal wallet to be funded with an allow minimum amount for all first-time riders before requesting a ride which will reduce the problem of fraudulent transactions.



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