# Strategic Insights into Stripe Connect Payout Behavior

**Empowering Growth through Data-Driven Analysis**


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# Executive Summary

**To analyze Stripe Connect's payout patterns to estimate future payouts and identify growth opportunities.**

**Key Findings:**

- Anticipated payouts for each country on Jan. 1, 2019, reveal significant regional variances.
- Education, Food & Beverage, and Hotels, Restaurants & Leisure industries are projected to show notable payout growth in 2019.
- Recommended metrics for ongoing tracking i.e., Gross Payment Volume (GPV), Net Revenue, and Active Platform Engagement.

# Objective and Data Overview

**Leverage historical payout data to forecast future performance and identify key operational metrics.**

Stripe Connect is a product that allows platform businesses to pay out money to other businesses all over the world. In this project, we will analyze the payout behavior of Stripe platforms.

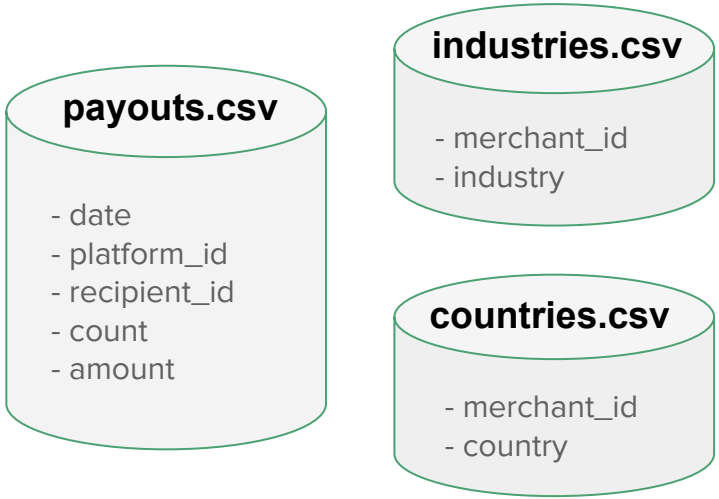
**A platform is a Stripe user that enables other businesses to process payments with Stripe.**

**Data Sources:**

**payouts.csv:**
Daily payout amounts, with platform and recipient IDs.

**countries.csv:**
Mapping of merchant IDs to countries.

**industries.csv:**
Mapping of merchant IDs to industries.



# Analytical Approach

**Data Preparation:**

- Explore the datasets.

- Check for the missing values and outliers.

- Perform imputation.

- Clean and merge datasets to form a comprehensive view of payouts by country and industry.

**Forecasting Method:**

- Utilized time series analysis for estimating country payouts.

- Can use Linear regression with seasonal dummy to estimate country payouts.

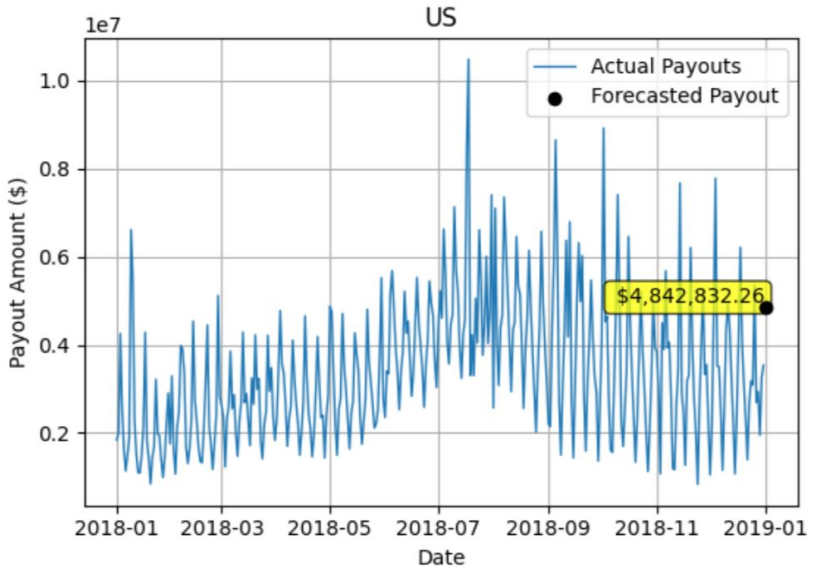
- Applied industry growth rates to project 2019 volumes.

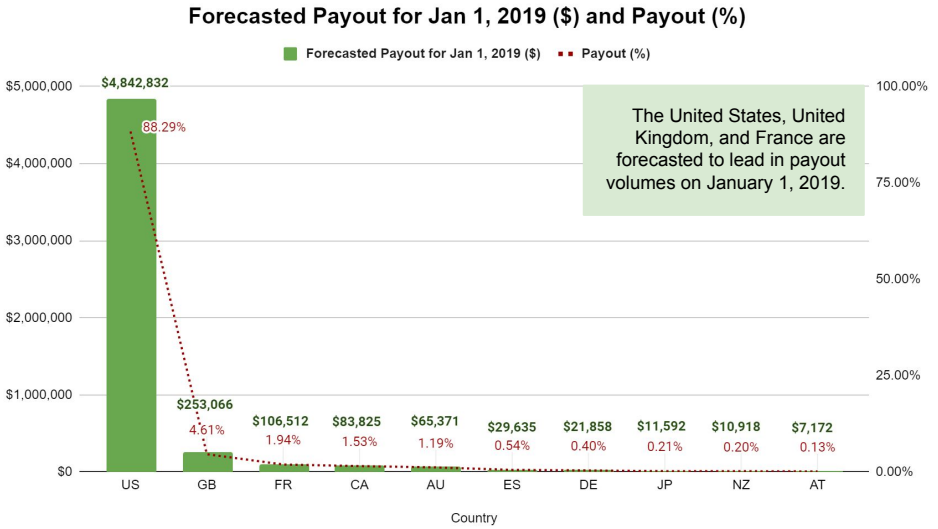
**Metrics Definition:**

Selected metrics based on their potential to provide actionable insights into platform usage and financial health.

# Problem 1: Estimating Payouts for Jan. 1, 2019

Estimates are based on historical payout trends, adjusted for seasonal variations and growth patterns. More specifically, seasonal ARIMA (Time-series forecasting)



# Problem 1: Estimating Payouts for Jan. 1, 2019

| Country | Unique Platforms | Unique Recipients | Forecasted Payout for Jan 1, 2019 ($) | Payout % |
|---|---|---|---|---|
| US | 229 | 55385 | $4,842,832 | 88.29% |
| GB | 49 | 2899 | $253,066 | 4.61% |
| FR | 45 | 22850 | $106,512 | 1.94% |
| CA | 25 | 1417 | $83,825 | 1.53% |
| AU | 33 | 1397 | $65,371 | 1.19% |
| ES | 16 | 2654 | $29,635 | 0.54% |
| DE | 14 | 2450 | $21,858 | 0.40% |
| JP | 11 | 2163 | $11,592 | 0.21% |
| NZ | 17 | 403 | $10,918 | 0.20% |
| AT | 10 | 593 | $7,172 | 0.13% |
| IE | 12 | 152 | $6,636 | 0.12% |
| IT | 17 | 480 | $5,998 | 0.11% |
| BE | 10 | 2341 | $5,849 | 0.11% |

| Country | Unique Platforms | Unique Recipients | Forecasted Payout for Jan 1, 2019 ($) | Payout % |
|---|---|---|---|---|
| SG | 4 | 68 | $4,553 | 0.08% |
| NL | 7 | 152 | $4,279 | 0.08% |
| BR | 5 | 526 | $4,189 | 0.08% |
| DK | 10 | 97 | $3,647 | 0.07% |
| FI | 9 | 71 | $3,549 | 0.06% |
| CH | 10 | 490 | $3,086 | 0.06% |
| HK | 4 | 4917 | $2,999 | 0.05% |
| SE | 14 | 91 | $2,895 | 0.05% |
| LU | 3 | 55 | $1,373 | 0.03% |
| PT | 7 | 37 | $1,336 | 0.02% |
| MX | 2 | 11 | $1,250 | 0.02% |
| NO | 16 | 421 | $457 | 0.01% |

# Problem 2: Projected Payout Volumes for 2019

**Assumption:** This projection method assumes linear growth and does not account for potential increases in average payout amounts per platform or other market dynamics that might affect payouts in 2019.

**Step 1:** Calculate the average daily payout for each industry

**Step 2:** If the industry was present in 2018, use its average daily payout for projection

| Industry | Average daily payout per platform in 2018 | Number of Future platforms | Estimated total daily payout volume for 2019 |
|---|---|---|---|
| **Food & Beverage** | $7,704.08 | 40 | $308,163.03 |
| **Education** | $16,390.32 | 15 | $245,854.74 |
| **Hotels, restaurants & leisure** | $0.94 | 5 | $4.70 |

Total estimated daily payout volume on a typical day for the selected industries in 2019: **$554,022.47**

# Problem 3: Key Metrics for Stripe Connect

**1. Gross Payment Volume (GPV):** Total volume of payouts processed through Stripe Connect.

**GPV = SUM(amount)**

**2. Average Payout Size:** Average amount of money transferred per payout.

**Average Payout Size = SUM(amount) / COUNT(transactions)**

**3. Payout Growth Rate:** The rate of growth in total payout volume from one period to the next.

**Payout Growth Rate = ((GPV_current - GPV_previous) / GPV_previous) * 100**

**4. Active Platforms:** The number of unique platforms that have made at least one payout in a given period.

**Active Platforms = COUNT(unique platform_id where payouts > 0)**

**5. Payout Frequency by Platform:** The average number of payouts initiated by each platform.

**Payout Frequency = COUNT(payouts) / COUNT(unique platform_id)**

**6. Platform and Recipient Churn Rate:** The rate at which platforms or recipients stop using Stripe Connect for payouts.

**Churn Rate = (( COUNT( platforms / recipients_previous ) - COUNT( platforms / recipients_current)) / COUNT( platforms / recipients_previous )) * 100**

**7. Net Revenue from Payouts:** The revenue Stripe earns from processing payouts, after deducting costs. Assuming a fee percentage,

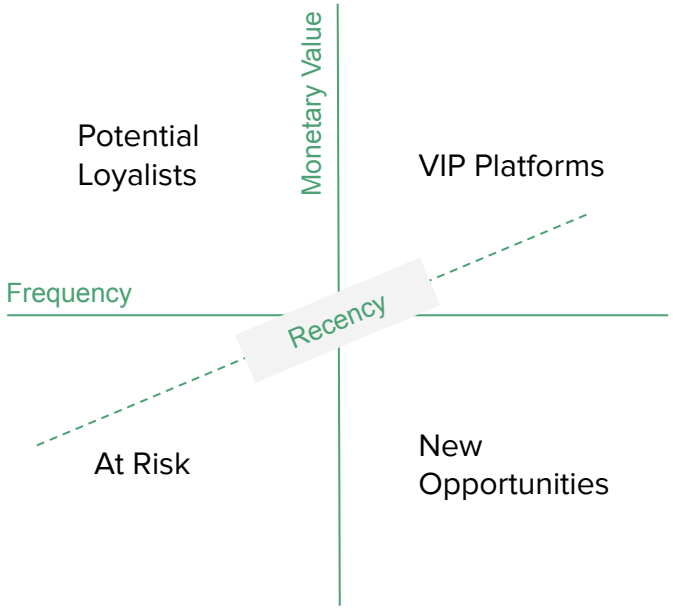
**Net Revenue = SUM ( amount ) * fee_percentage - operational_costs**

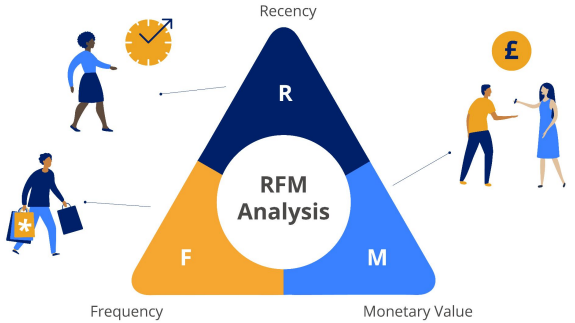
**8. Active Recipients:** Number of unique recipients that have received at least one payout in a given period.

**Active Recipients = COUNT(unique recipient_id where received payouts > 0)**

# Problem 3: Key Metrics for Stripe Connect

**9. RFM Score:** Enhancing Platform Loyalty with RFM Segmentation



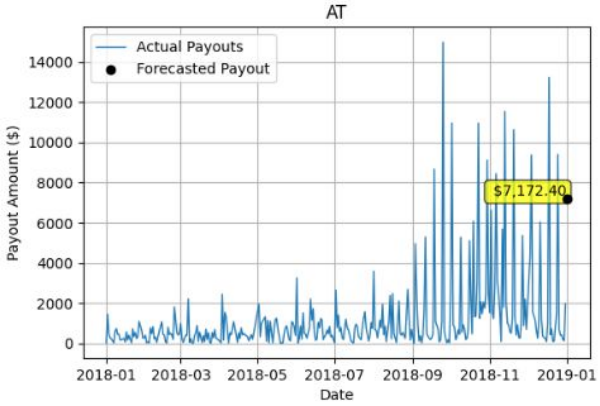

**VIP Platforms:** Premium Benefits & Lower Fees
**Potential Loyalists:** Growth Incentives & Personalized Support
**New Opportunities:** Onboarding Support & Introductory Offers
**At Risk:** Re-engagement Offers & Account Optimization

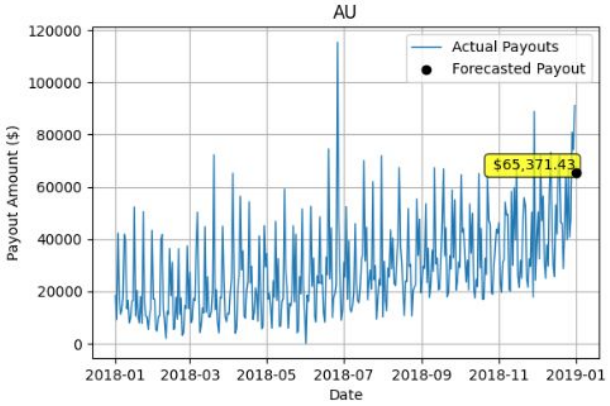
# Thank You

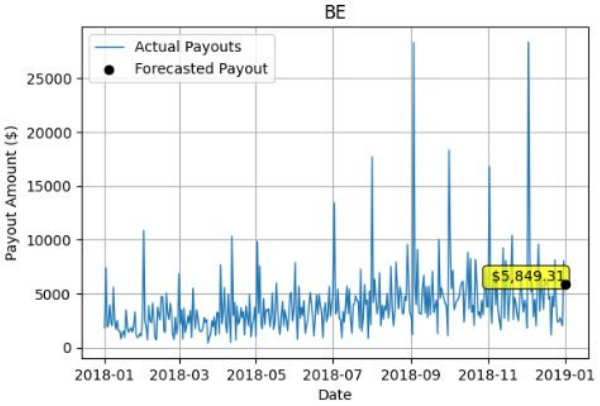
Any Questions ? Feel free to ask !

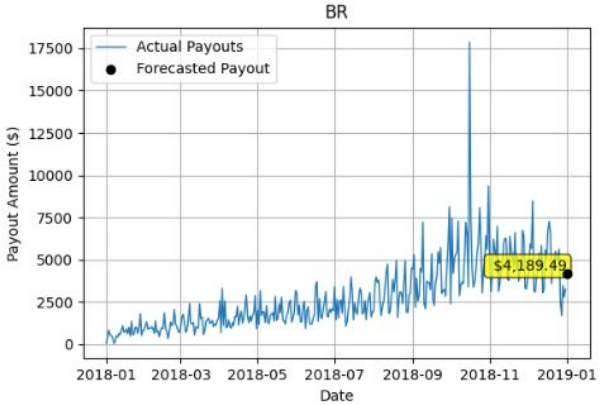
Appendix slides below ▼

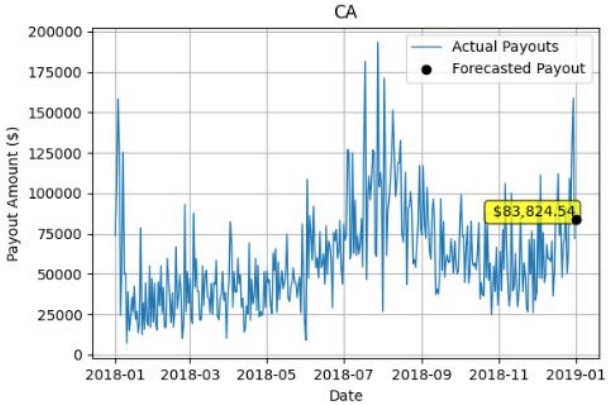
# Appendix

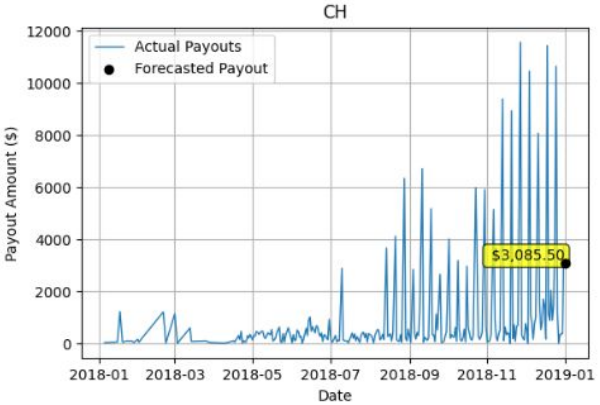

AT
Actual Payouts
Forecasted Payout
$7,172.40
Payout Amount ($)
Date


AU
Actual Payouts
Forecasted Payout
$65,371.43
Payout Amount ($)
Date

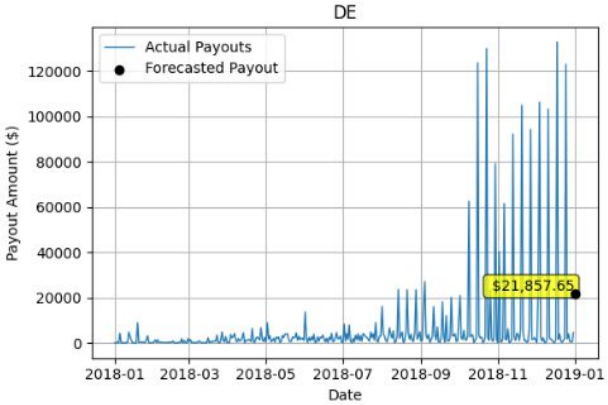

BE
Actual Payouts
Forecasted Payout
$5,849.31
Payout Amount ($)
Date

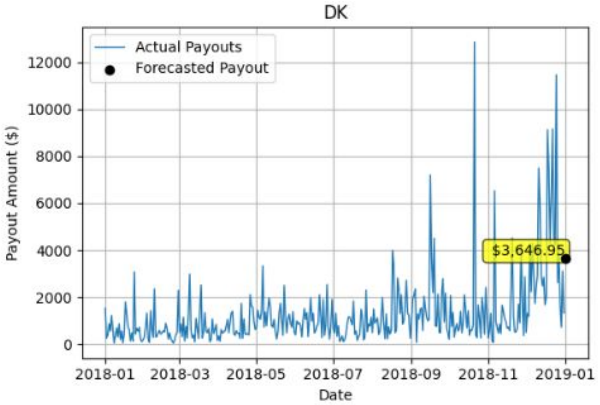

BR
Actual Payouts
Forecasted Payout
$4,189.49
Payout Amount ($)
Date

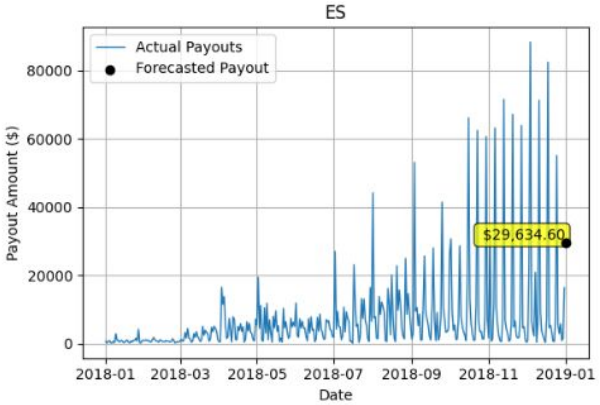

CA
Actual Payouts
Forecasted Payout
$83,824.54
Payout Amount ($)
Date

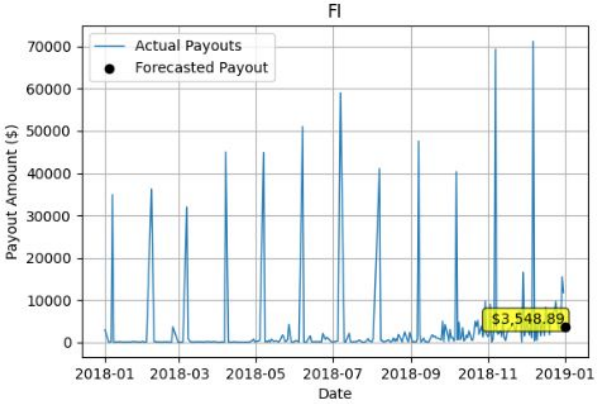

CH
Actual Payouts
Forecasted Payout
$3,085.50
Payout Amount ($)
Date

# Appendix


DE
Actual Payouts
Forecasted Payout
$21,857.65
Payout Amount ($)
Date


DK
Actual Payouts
Forecasted Payout
$3,646.95
Payout Amount ($)
Date


ES
Actual Payouts
Forecasted Payout
$29,634.60
Payout Amount ($)
Date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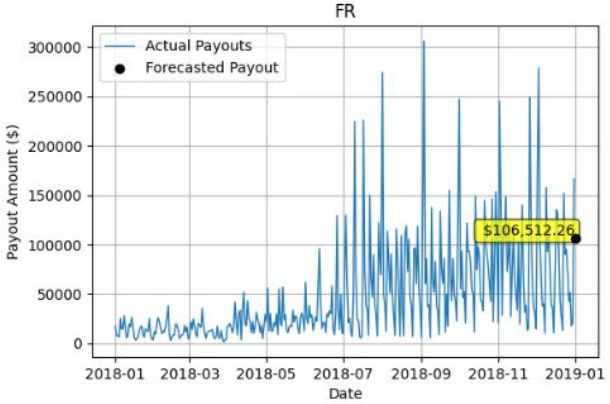
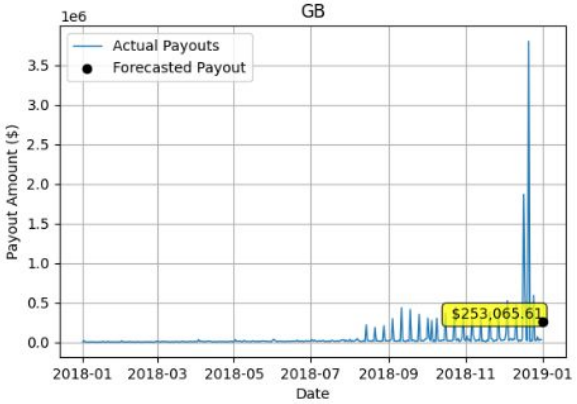
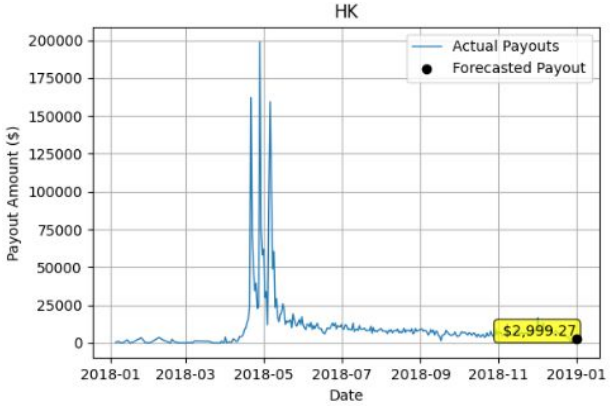
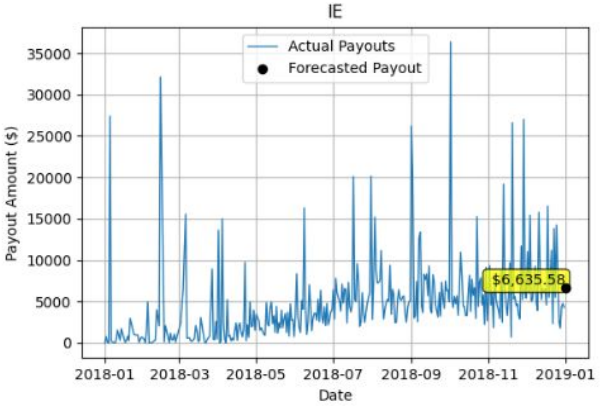
Actual Payouts
Forecasted Payout
$3,548.89
Payout Amount ($)
Date

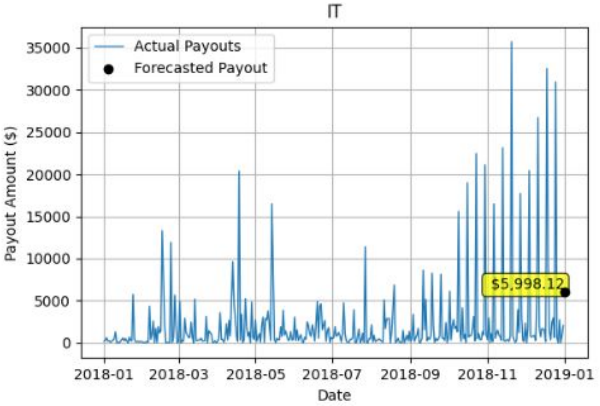

FR
Actual Payouts
Forecasted Payout
$106,512.26
Payout Amount ($)
Date

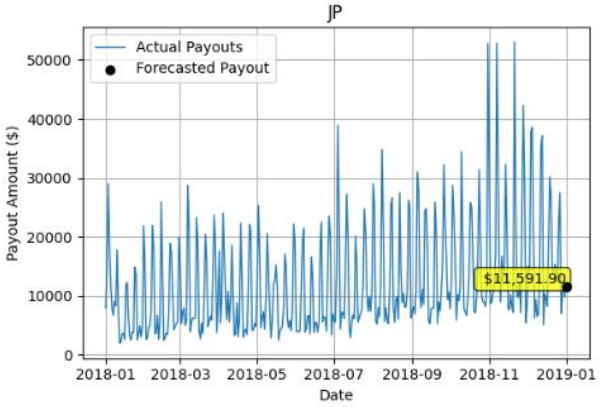

GB
1e6
Actual Payouts
Forecasted Payout
$253,065.61
Payout Amount ($)
Date

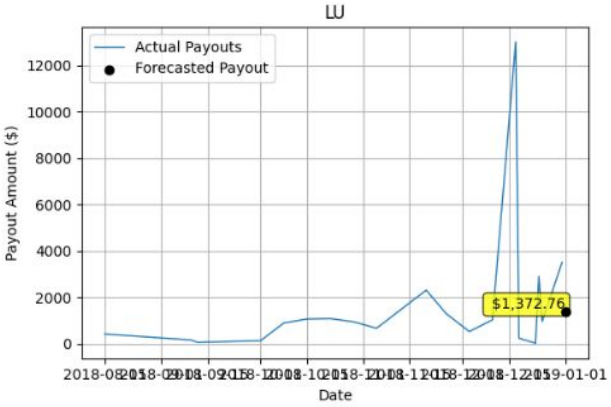
# Appendix

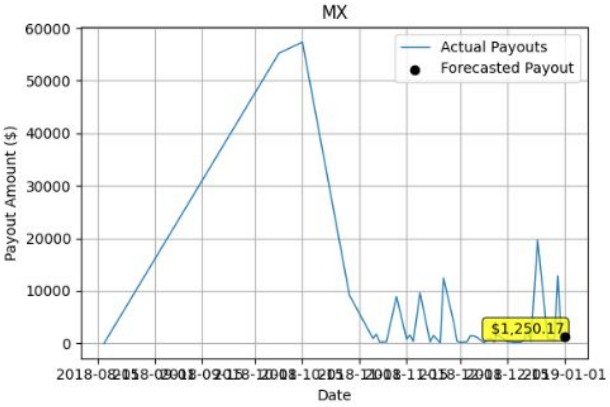

HK
Actual Payouts
Forecasted Payout
$2,999.27
Payout Amount ($)
Date


IE
Actual Payouts
Forecasted Payout
$6,635.58
Payout Amount ($)
Date

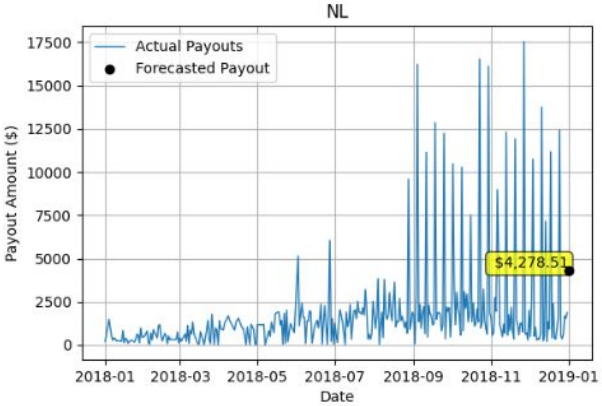

IT
Actual Payouts
Forecasted Payout
$5,998.12
Payout Amount ($)
Date

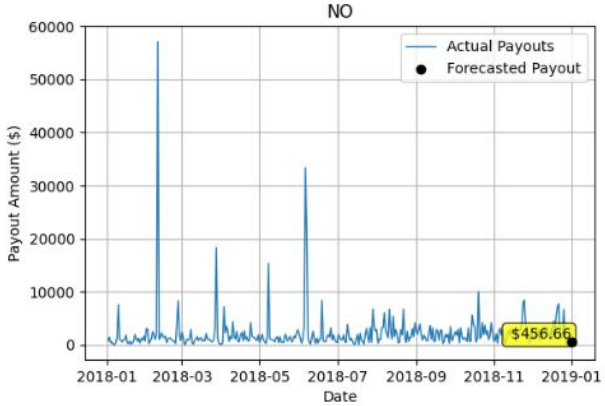

JP
Actual Payouts
Forecasted Payout
$11,591.90
Payout Amount ($)
Date

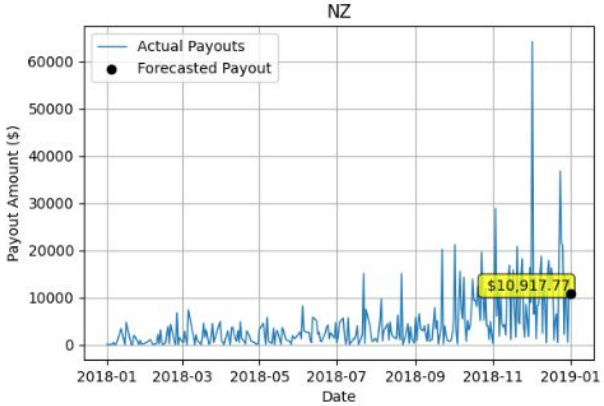

LU
Actual Payouts
Forecasted Payout
$1,372.76
Payout Amount ($)
Date

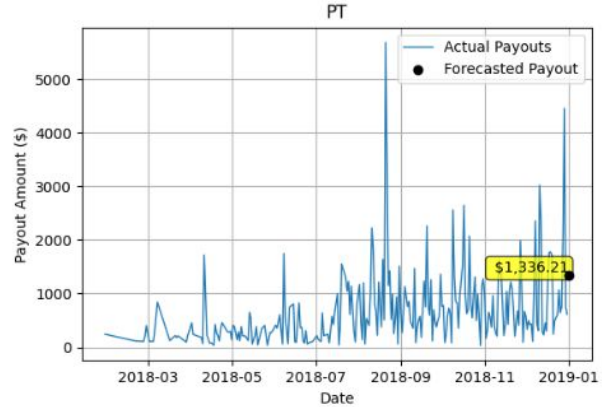

MX
Actual Payouts
Forecasted Payout
$1,250.17
Payout Amount ($)
Date

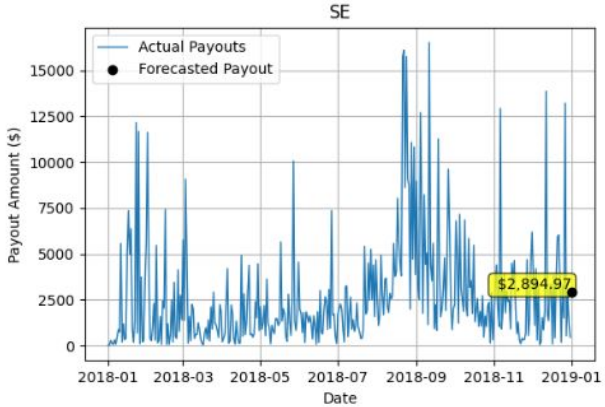
# Appendix

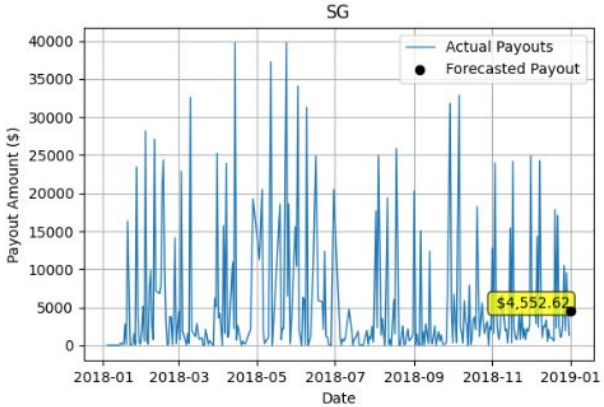

NL
Actual Payouts
Forecasted Payout
$4,278.51
Payout Amount ($)
Date


NO
Actual Payouts
Forecasted Payout
$456.66
Payout Amount ($)
Date


NZ
Actual Payouts
Forecasted Payout
$10,917.77
Payout Amount ($)
Date


PT
Actual Payouts
Forecasted Payout
$1,336.21
Payout Amount ($)
Date


SE
Actual Payouts
Forecasted Payout
$2,894.97
Payout Amount ($)
Date


SG
Actual Payouts
Forecasted Payout
$4,552.62
Payout Amount ($)
Date

# Appendix

```
# Check for missing values in each dataset
check_missing_values(payouts_df, "payouts")
check_missing_values(industries_df, "industries")
check_missing_values(countries_df, "countries")
```

```
Missing values in payouts:
date            0
platform_id     0
recipient_id    0
count           0
amount          0
dtype: int64


Missing values in industries:
merchant_id    0
industry       1
dtype: int64


Missing values in countries:
merchant_id    0
country        0
dtype: int64
```

```
# Group by 'country' and 'date', then sum 'amount' for each group
grouped_sum = final_df.groupby(['country', 'date'])['amount'].sum().reset_index()

# Display the grouped and summed DataFrame
print(grouped_sum)
```

```
     country                       date       amount
0         AT  2018-01-01 00:00:00+00:00        24.87
1         AT  2018-01-02 00:00:00+00:00      1446.87
2         AT  2018-01-03 00:00:00+00:00       470.83
3         AT  2018-01-04 00:00:00+00:00       275.41
4         AT  2018-01-05 00:00:00+00:00       214.91
...      ...                        ...          ...
7746      US  2018-12-27 00:00:00+00:00   2692297.84
7747      US  2018-12-28 00:00:00+00:00   2940939.05
7748      US  2018-12-29 00:00:00+00:00   1947448.42
7749      US  2018-12-30 00:00:00+00:00   3251277.88
7750      US  2018-12-31 00:00:00+00:00   3536931.57

[7751 rows x 3 columns]
```