



# COHORT ANALYSIS

## IRONHACK PAYMENTS

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# INTRODUCTION

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At NSN Innovation Corp, we partnered with IronHack Payments to explore how users engage with their service. By tracking cohorts based on their first cash advance, we uncovered insights on usage, incidents, and revenue—helping IronHack Payments boost customer experience and business growth.



# Data Quality ANALYSIS

## Checking for duplicates and missing values

Missing Values in Cash request Column:

id	0
amount	0
status	0
created_at	0
updated_at	0
user_id	2103
moderated_at	7935
deleted_account_id	21866
reimbursement_date	0
cash_request_received_date	7681
money_back_date	7427
transfer_type	0
send_at	7329
recovery_status	20640
reco_creation	20640
reco_last_update	20640
dtype:	int64

Missing Values in Fees Column:

id	0
cash_request_id	4
type	0
status	0
category	18865
total_amount	0
reason	0
created_at	0
updated_at	0
paid_at	5530
from_date	13295
to_date	13295
charge_moment	0
dtype:	int64



# Data Quality ANALYSIS

Change the time format to datetime format(before the cohort creation)

We spotted unusual values or incorrect data types and changed them.

```
cash_request_clean = df_cash_requests[['id', 'created_at', 'updated_at', 'send_at', 'status']].copy()

columns_to_convert = ['created_at', 'updated_at', 'send_at']

for column in columns_to_convert:
    cash_request_clean[column] = pd.to_datetime(cash_request_clean[column], errors='coerce')

print(cash_request_clean.dtypes)
```

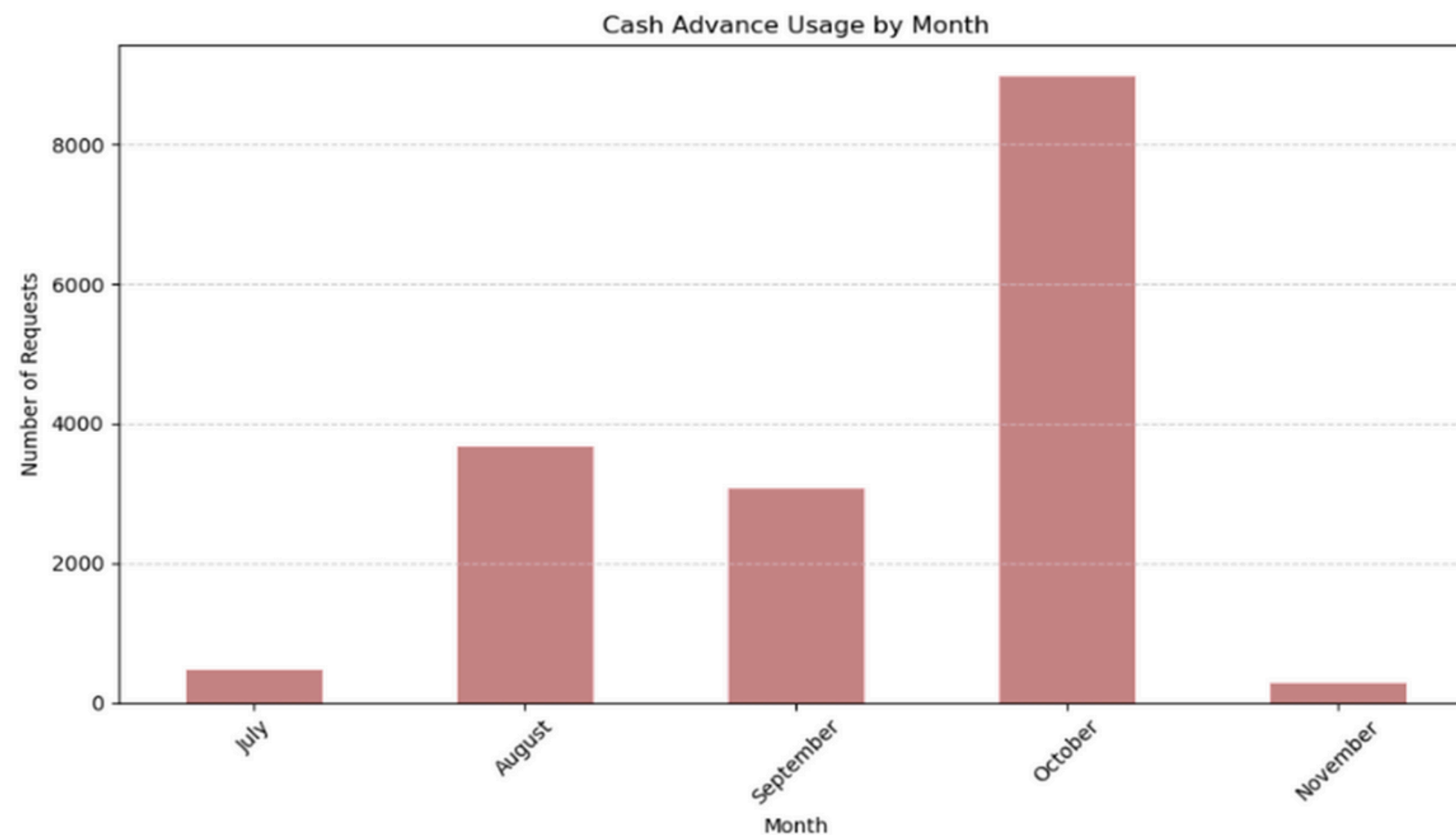
```
id                int64
created_at        datetime64[ns, UTC]
updated_at        datetime64[ns, UTC]
send_at           datetime64[ns, UTC]
status            object
dtype: object
```

# EDA

# ANALYSIS

## Frequency of Service Usage.

Understand how often users from each cohort utilize IronHack Payments' cash advance services over time.

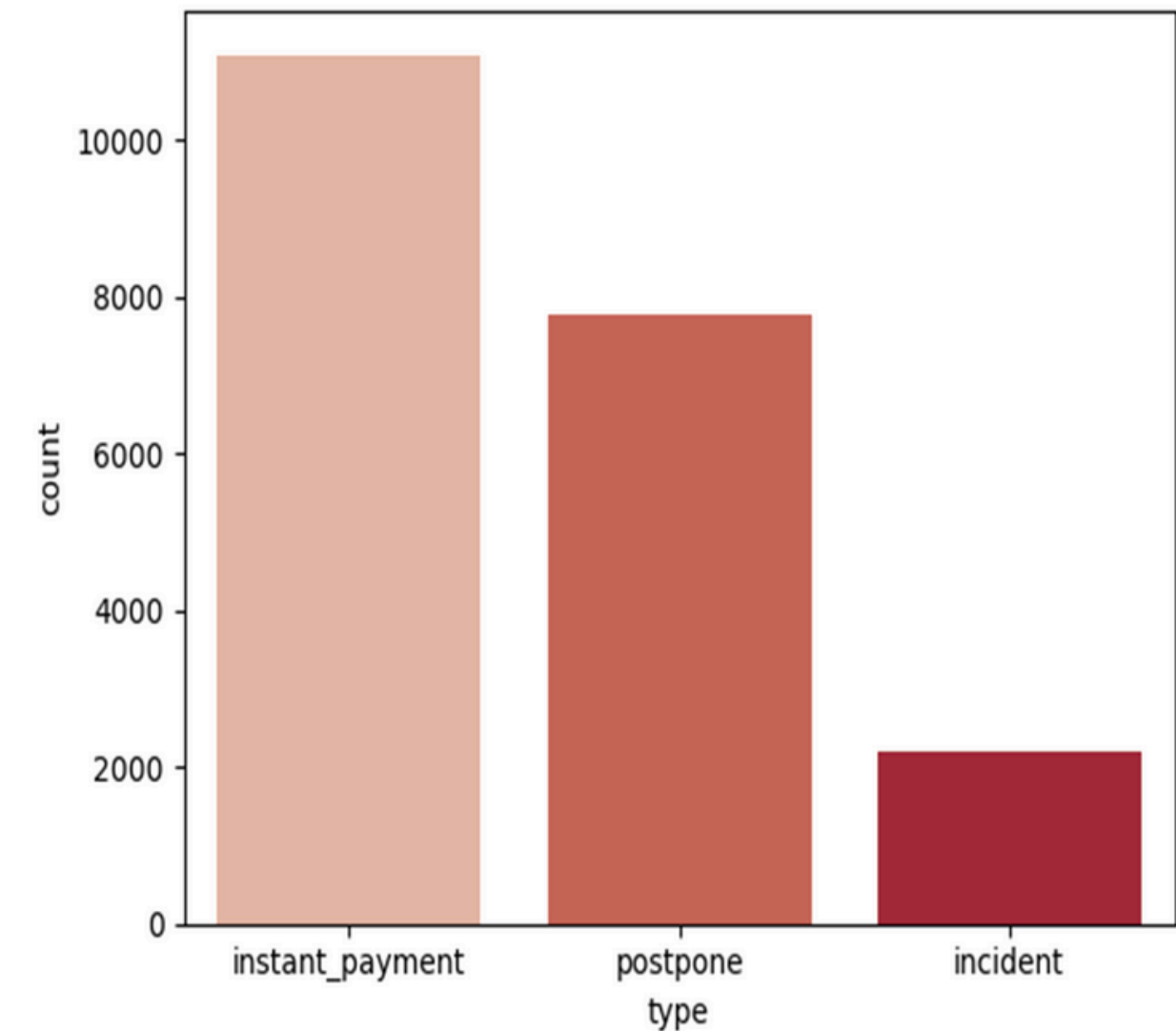
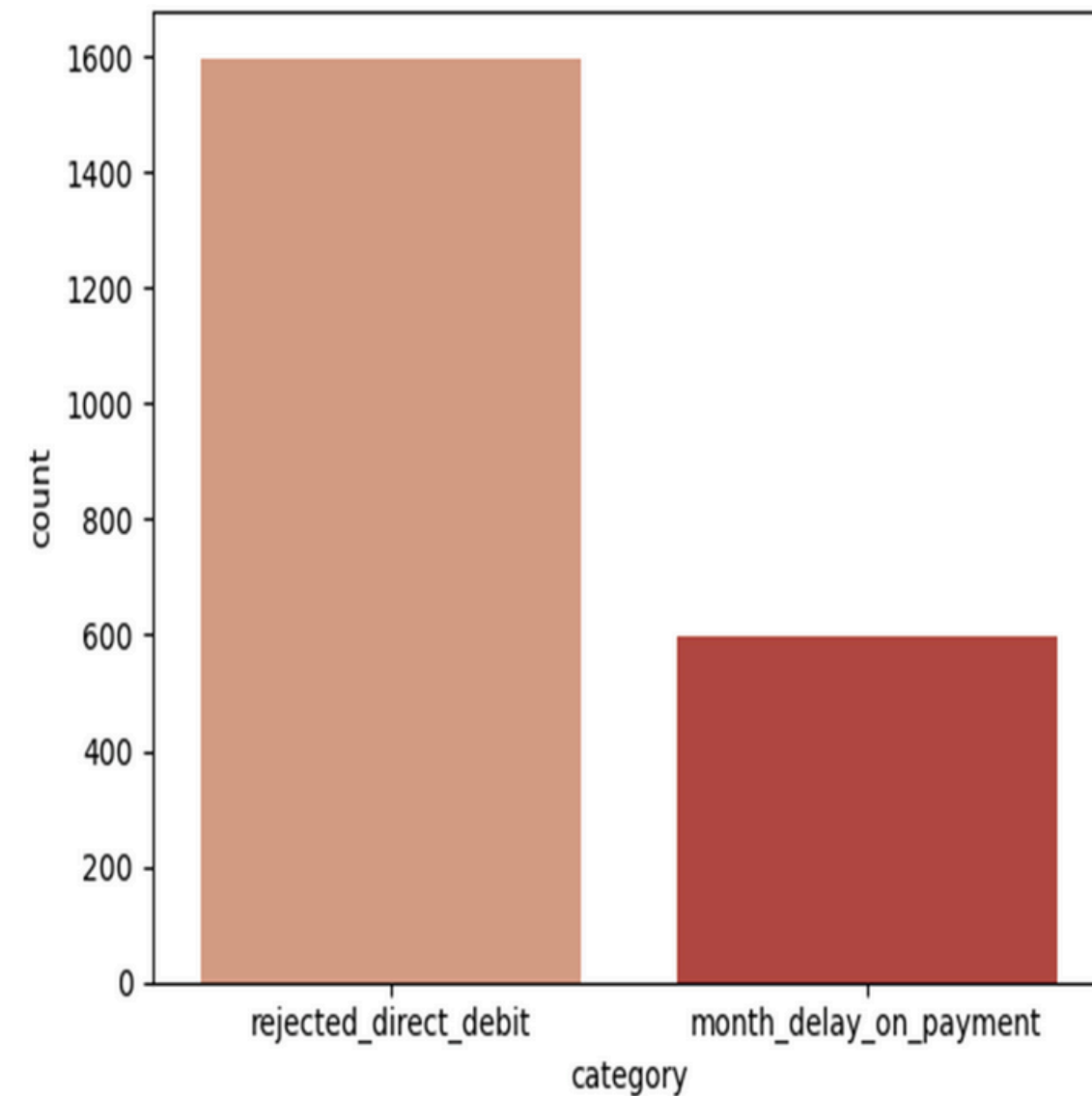


# EDA

## ANALYSIS

### Frequency of Service Usage.

Understand how often users from each cohort utilize IronHack Payments' cash advance services over time.

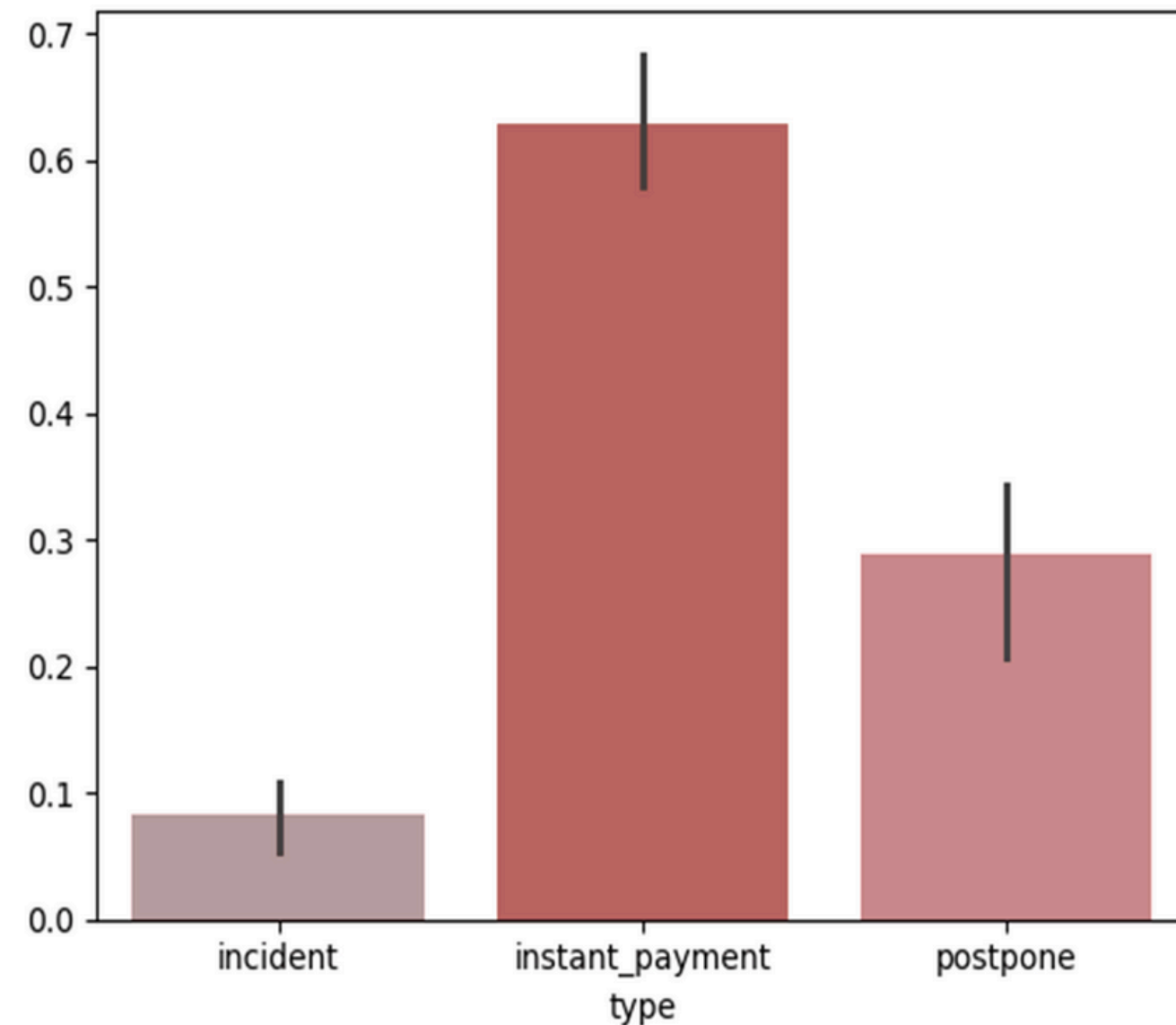


# EDA

# ANALYSIS

## Incident Rate.

Determine the incident rate, explicitly focusing on payment incidents, for each cohort. Identify if there are variations in incident rates among different cohorts.



**1. instant\_payment** : fees for instant cash request (send directly after user's request, through SEPA Instant Payment)

**2.incident** : fees for failed reimbursement. Created after a failed direct debit

**3.postpone** : fees created when a user want to postpone the reimbursment of a CR

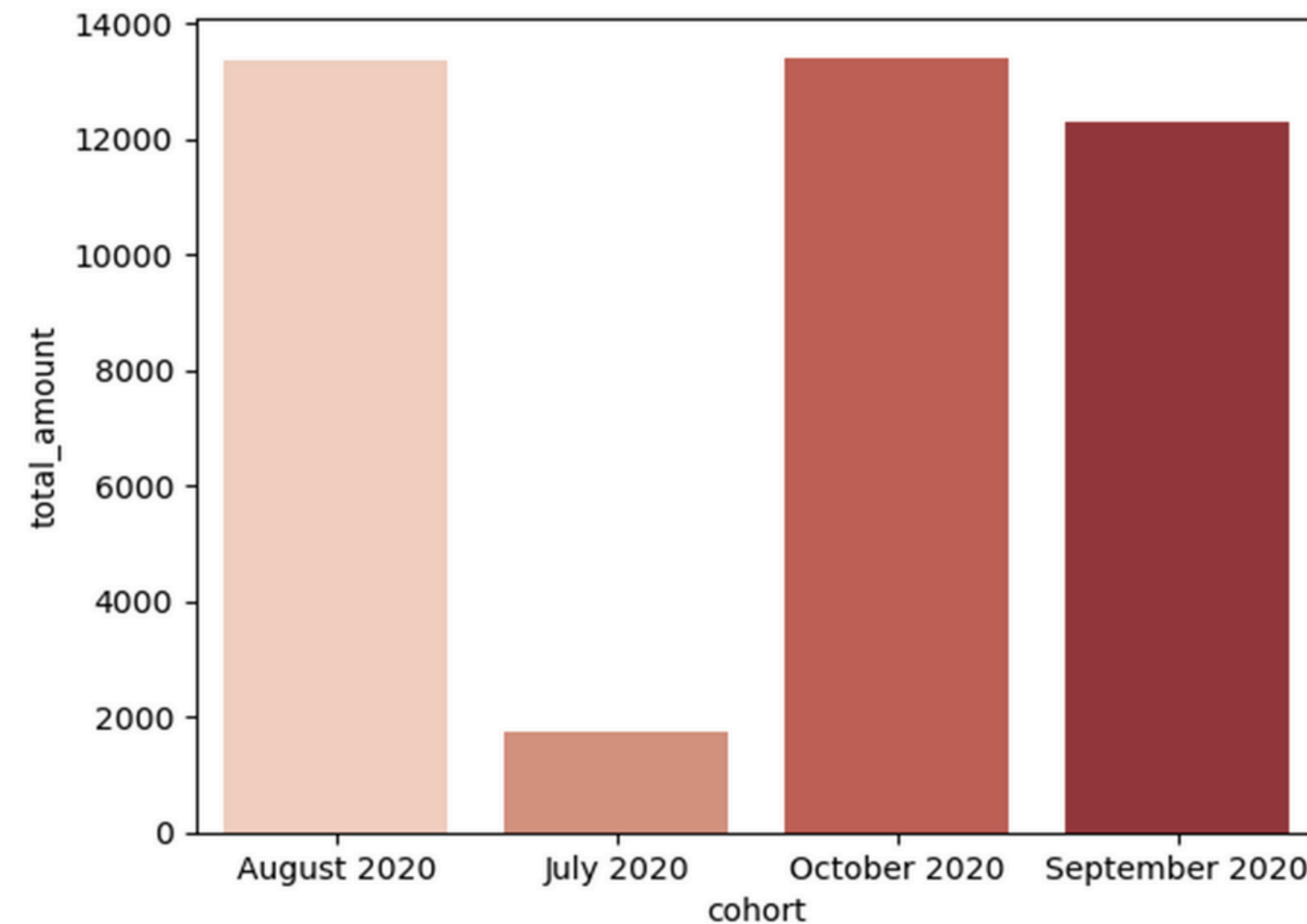


# EDA

# ANALYSIS

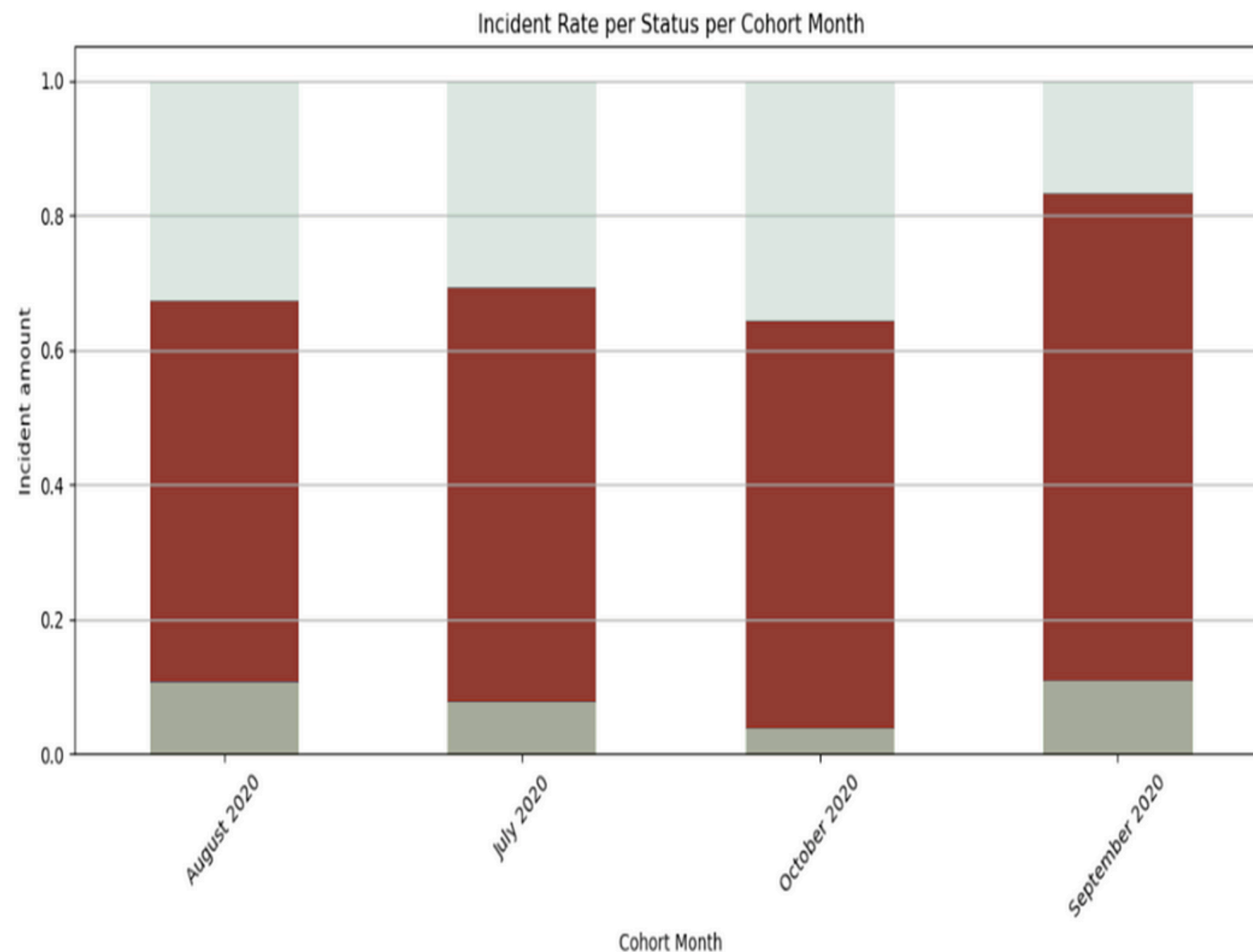
## Revenue Generated by the Cohort.

Calculate the total revenue generated by each cohort over months to assess the financial impact of user behavior.



# EDA ANALYSIS

## The ratio of Revenue distribution the Cohort



1. **instant\_payment** : fees for instant cash request (send directly after user's request, through SEPA Instant Payment)

2. **Incident** : fees for failed reimbursement. Created after a failed direct debit

3. **Postpone** : fees created when a user want to postpone the reimbursment of a CR

- Cohort utilize IronHack changes according to months
- October is the highest

# BUSINESS INSIGHT FOR THE FUTURE

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## Next studies & research:

- 1 Usage patterns may be influenced by seasonal or holiday-related spending behaviors.
- 2 Offering more promotions and discounts could potentially increase business revenues.

# Contact us

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**THANK YOU**