



IronHack Payments: Cohort Analysis

Introduction

IronHack Payments, an innovative financial services company, aims to conduct a cohort analysis to better understand user behavior and service performance.

The key objectives of this project include analyzing important metrics, identifying patterns, and creating clear visualizations and reports.

Key Objectives of the Analysis

Learn to use the **pandas** and **numpy** Python libraries

Learn basic data analysis techniques: cleaning, formatting, and merging

Learn to represent data in plots using matplotlib and seaborn libraries

Learn to handle higher-order functions

Overcome runtime challenges and optimize data processing

Technical Approach and Analysis

- **Business Understanding:** How can the business implement a strategy to stabilize or increase revenue across months while effectively monitoring incident fees and reducing recovery times?
- **Data Collection:** Consolidated data from two primary sources: cash requests and fee transactions.
- **Data Quality and Cleaning:** Standardized, formatted, and merged both datasets, addressing inconsistencies and missing values for na accrued data.
- **Exploratory Analysis:** Leveraged descriptive statistics to identify patterns, detect outliers, and refine cohort insights.
- **Cohort Analysis:** Assessed key metrics, including revenue trends, user engagement frequency, and incident fees. Developed a new metric to minimize incident resolution times and enhance business efficiency.



Key Insights & Challenges Encountered

Revenue Trends:

- May and November are the months with the lowest revenue.
- October sees the highest revenue and the most users utilizing cash advance services.

Fee Incidents:

- June and August exhibit higher variability in fee incidents, indicating potential instability in service or payment processes.

New Metric Analysis:

- A significant number of **outliers** were identified, especially in terms of the time taken to recover fees.
- These outliers need to be closely monitored and controlled to improve consistency and reduce delays.

