

# Data Assessment Report: Data Quality and Profitability Analysis

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Data Assessment Report 1

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## Executive Summary

- Cleaned and profiled 58,952 completed trades and 327 open positions after removing 38 duplicate tickets (59,279 unique rows) spanning 600 logins between 1 Jul 2024 and 3 Feb 2025, eliminating timestamp placeholders and negative holding durations.
- Closed trades generated £1,316,192.96 profit, while including open positions the total recorded profit is £1,340,433.96; only ~57.96% of logins are net-profitable and the top five accounts still contribute £160k whereas the weakest five lose £64k.
- Profitability hinges on gold trading (XAUUSD delivers 61% of closed profit), and several high-volume logins operate near break-even, signalling opportunities for intervention.

## Data Description

- Source: Assessment Data.csv located at repository root; fields cover login, ticket identifiers, pricing, timestamps, volumes, and profit outcomes at the trade level.
- Scope: Trades executed across 63 symbols with positions opened in 2024-07 and closed (where applicable) by 2025-02; 327 records remain open with no closing timestamp.

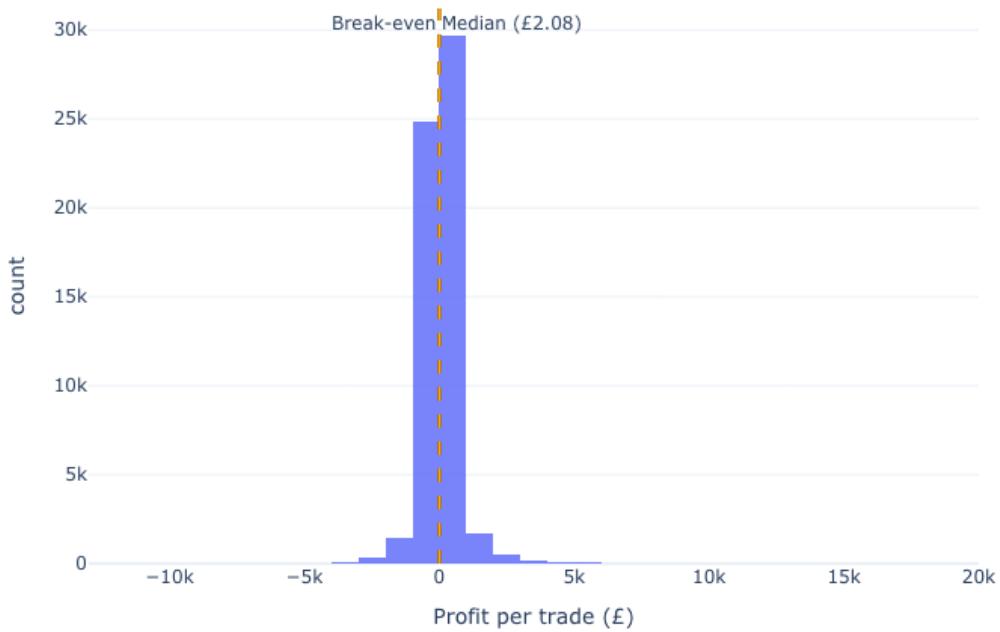
## Methods in Brief

- Conducted schema diagnostics, missing-value checks, duplicate detection, and anomaly sampling.
- Applied cleaning steps: standardised categorical casing, normalised timestamps, coerced numeric fields, removed 38 duplicate tickets by ticket, and nullified placeholder close times and negative holding durations.
- Executed exploratory profiling (numeric summaries, trade-type and symbol aggregations, daily profit trend) and profitability analytics (cumulative profit per login, ranking tables, percentile analysis, and driver visualisations).

## Exploratory Data Findings

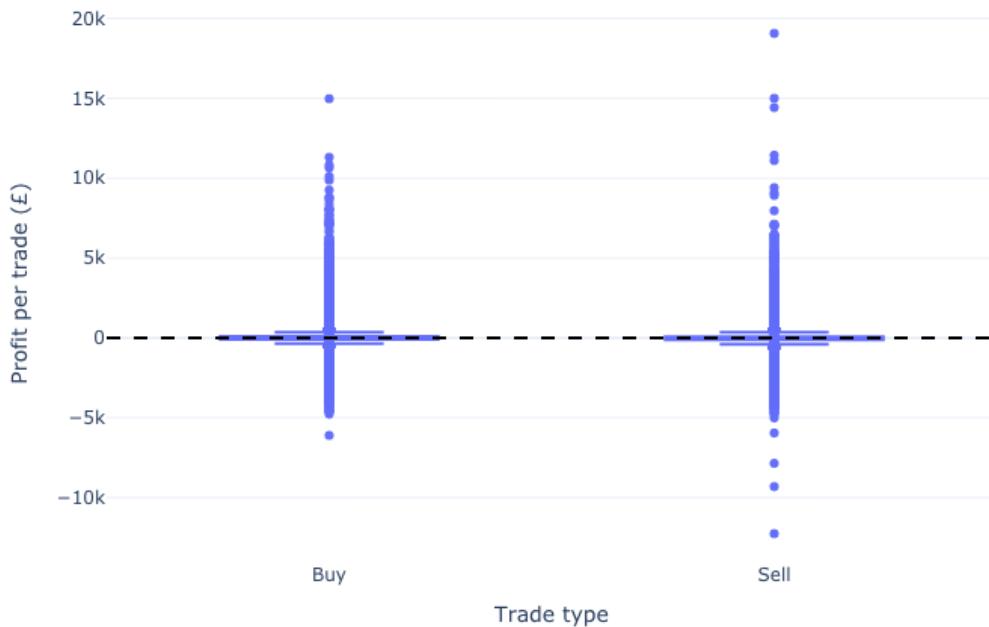
- Profit per trade is highly skewed (median £2.08 vs mean £22.33) with heavy tails, as visualised in the Interactive Distribution of Profit per Trade chart. [Note: £22.33 is from descriptive statistics, not shown in the chart.]

## Interactive Distribution of Profit per Trade



- Buy orders represent 55% of activity, show longer median holding periods ( $\approx 51$  minutes), and deliver marginally higher median profit than sells, supporting a longer-duration strategy insight.

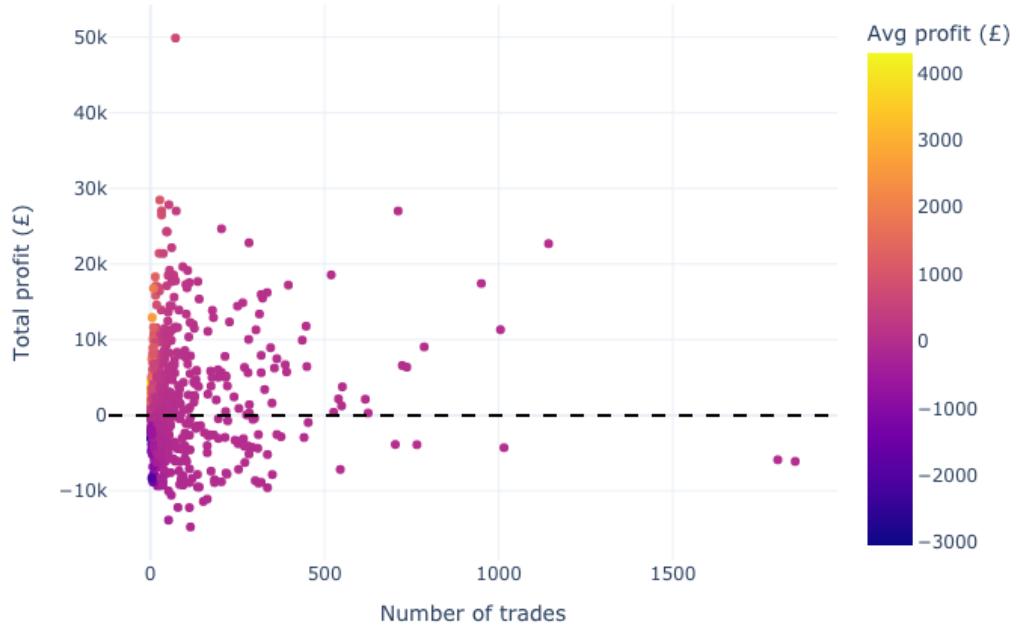
## Profit Distribution by Trade Type



- Symbol analysis highlights extreme concentration: XAUUSD accounts for 28,797 closed trades and £805k profit (~61% of closed profit), while the next four symbols

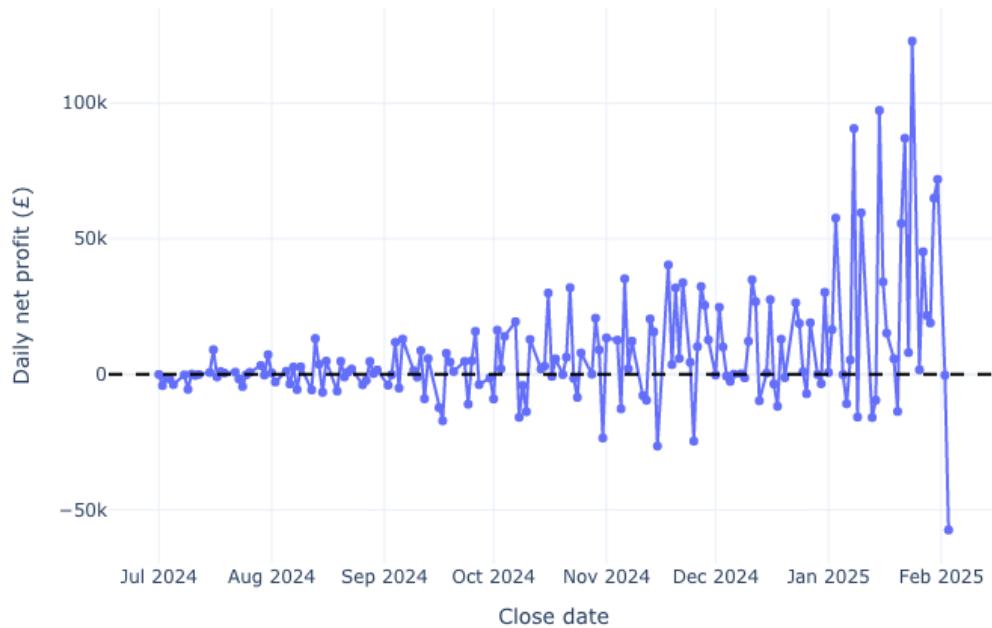
collectively contribute 31% of profit. High trade counts do not guarantee superior returns; several logins with 1,000+ trades hover near break-even, suggesting that volume alone is not a success indicator.

Login Activity vs Total Profit (Closed Trades)



- Daily net profit swings sharply; the Net Profit by Close Date line chart reveals mid-August and late-September profitability spikes that warrant contextual review.

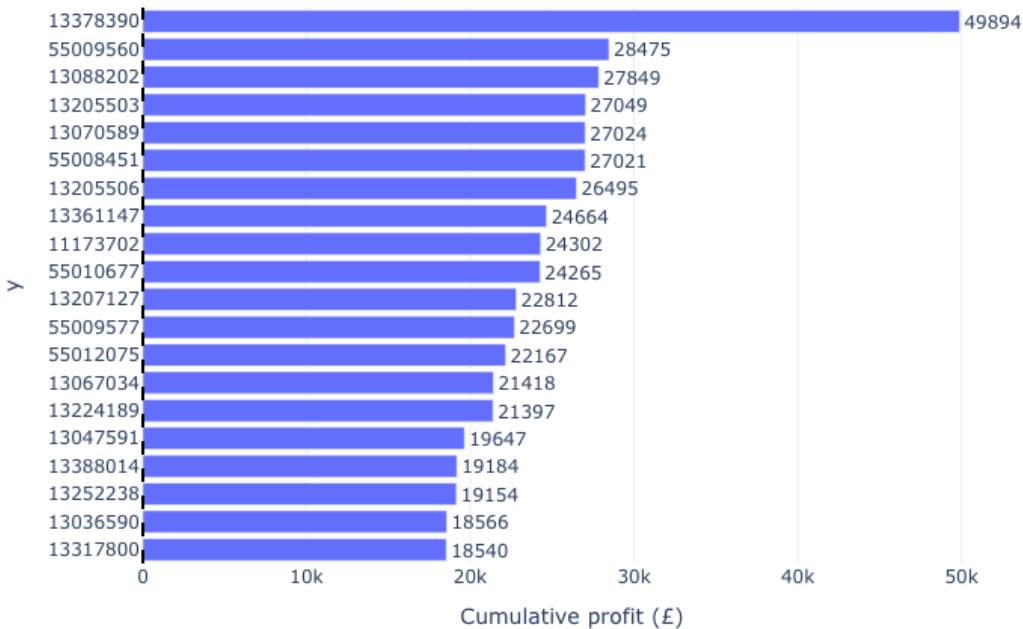
Net Profit by Close Date



## Profitability Results

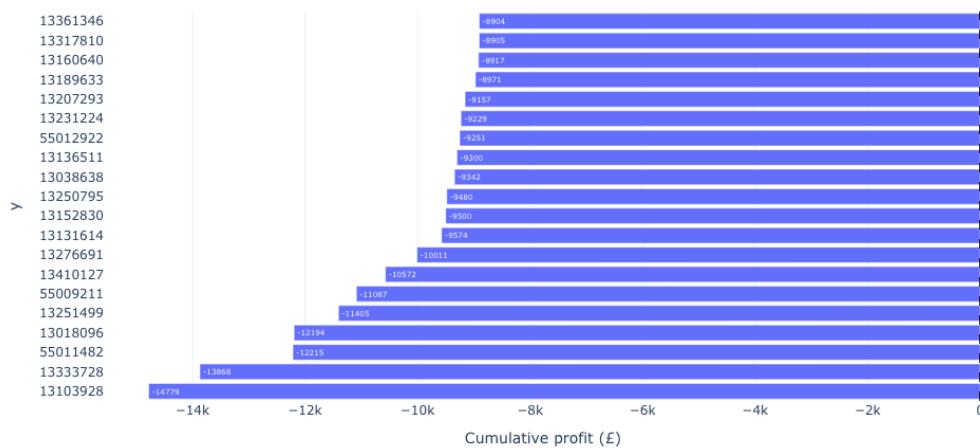
- Closed-trade cumulative profit totals £1,316,192.96 (all trades including open positions sum to £1,340,433.96). Login 13378390 leads with £49,894.12, followed by 55009560 (£28,475.44) and 13088202 (£27,848.61). The bottom performers - 13103928 (-£14,778.82), 13333728 (-£13,868.00), 55011482 (-£12,215.00), 13018096 (-£12,194.31), and 13251499 (-£11,405.24) - drive persistent losses.

Top 20 Logins by Cumulative Profit (Closed Trades)



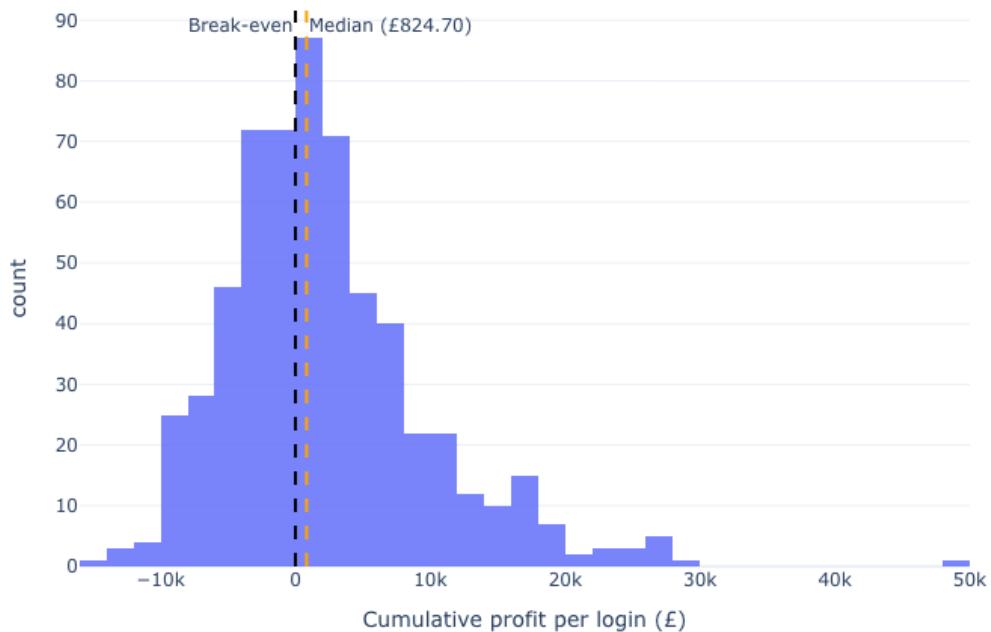
- The Top 20 Logins by Cumulative Profit and Bottom 20 Logins by Cumulative Profit interactive bar charts illustrate the stark contrast between leaders and laggards.

Bottom 20 Logins by Cumulative Profit (Closed Trades)



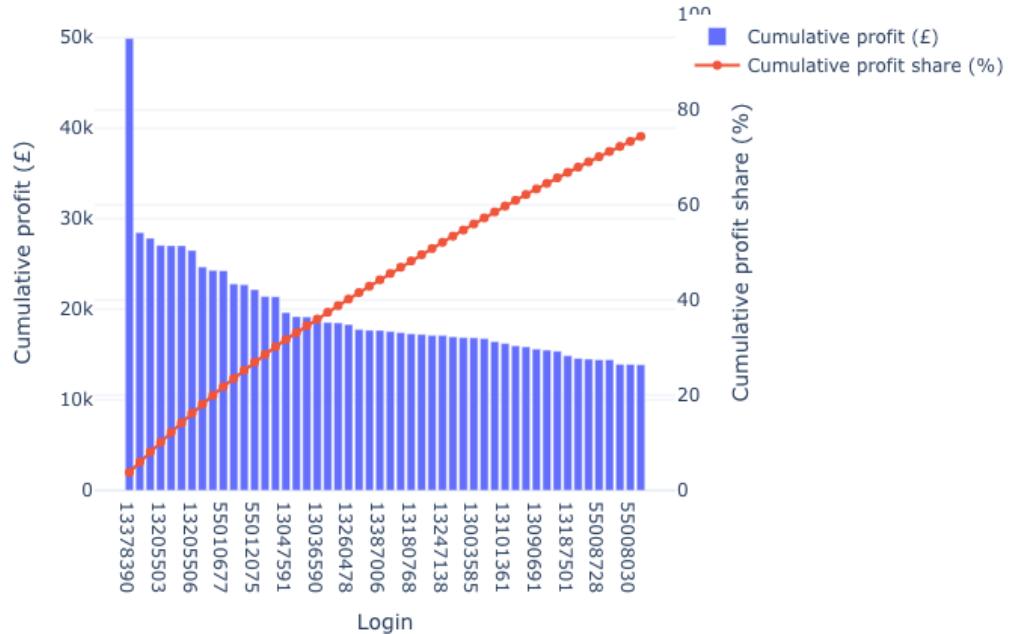
- Cumulative profit distribution is bimodal: the median login earns £824.70, the 10th percentile sits at -£6,033.23, and the 90th percentile at £11,714.50, as shown in the Distribution of Cumulative Profit per Login histogram; ~57.96% of logins are profitable.

Distribution of Cumulative Profit per Login (Closed Trades)

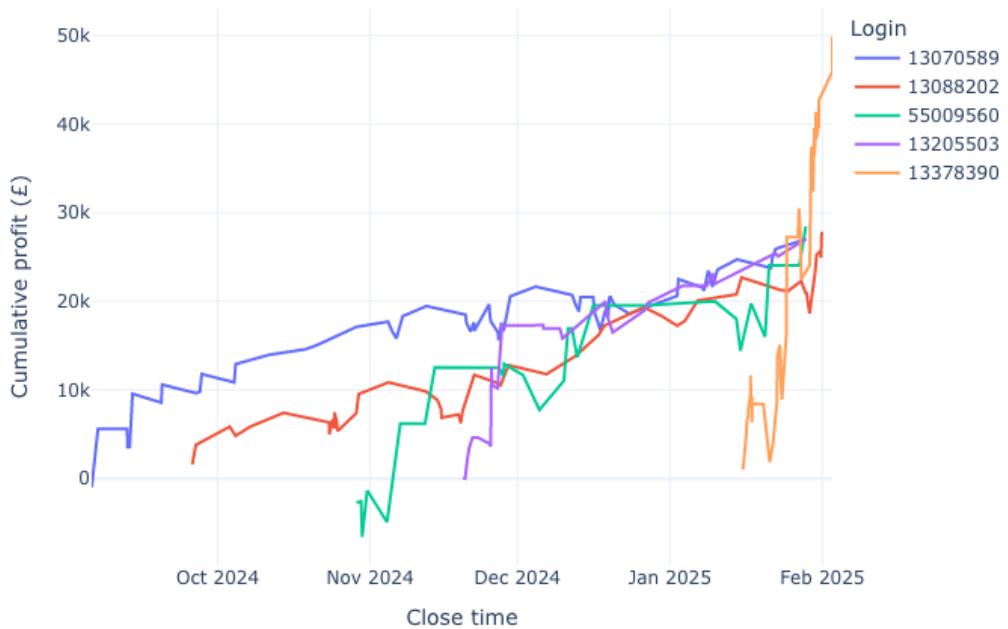


- Pareto analysis demonstrates that the top 10 logins contribute over 40% of total profit, while the top 30 deliver roughly two-thirds (see Pareto Chart of Login Profitability). Cumulative profit trajectories for the top five logins rise steadily with intermittent drawdowns (Cumulative Profit Over Time – Top 5 Logins).

Pareto Chart of Login Profitability (Top 50, Closed Trades)



Cumulative Profit Over Time – Top 5 Logins (Closed Trades)



## Insights and Implications

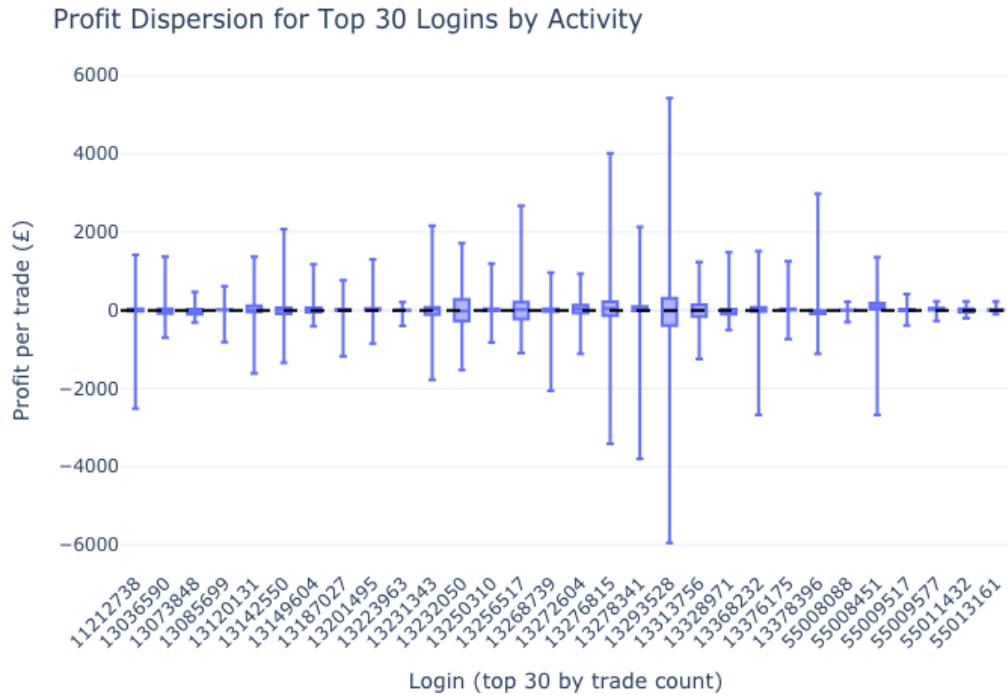
- High dependence on gold trading magnifies commodity-specific risk; diversification or tighter hedging around XAUUSD is advisable.
- Several high-volume logins operate near break-even, indicating coaching, strategy review, or risk limit adjustments could unlock latent profitability while ensuring the top five accounts that currently generate ~£160k remain supported.
- Monitoring open positions (327 trades) and troubleshooting timestamp capture issues will sharpen future performance measurement, especially for duration-based KPIs.

## Limitations

- Open trades lacking close\_time prevent full-cycle profitability and duration assessment for those positions.
- Negative holding durations were rare but point to upstream timestamp ordering issues; additional validation at capture time would reduce remediation effort.
- Analysis relies on realised profit only; financing costs, slippage, or commissions are not captured in the dataset and could influence net performance.

## Appendix

- Interactive notebook: data\_assessment.ipynb (executed end-to-end, includes all visuals and commentary).
- Dependency manifest: requirements.txt for reproducibility.



- This visualization illustrates that among the busiest 30 logins, profitability dispersion varies widely - several high-volume traders operate near break-even, while a small subset consistently achieves positive outcomes.