

Analysis of Trader Behaviour vs. Market Sentiment

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1. Objective

The purpose of this analysis is to explore the relationship between trader behaviour (profitability, leverage, trade volume, and number of trades) and overall market sentiment (Fear vs. Greed) in cryptocurrency markets. The goal is to identify whether trading patterns align or diverge from prevailing market moods and to uncover insights that could inform smarter trading strategies.

2. Data Description

Two datasets were used:

1. Historical Trader Data from Hyper liquid

- Key fields: Execution Price, Size USD, Start Position, Closed PnL, Timestamp IST
- Contains trade-level details from multiple accounts and assets
- Time period: *[Insert date range from analysis]*

2. Bitcoin Market Sentiment Data (Fear & Greed Index)

- Fields: Value, Classification (Fear or Greed), Date
 - Provides a daily measurement of Bitcoin market sentiment
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3. Methodology

1. Data Cleaning

- Converted timestamps into proper date formats
- Verified there were no missing values

2. Data Aggregation

- Grouped trader data by date
- Calculated daily total trades, total trade volume (USD), average start position (proxy for leverage), and average closed PnL

3. Data Merging

- Merged aggregated trader data with sentiment data on the date column

4. Exploratory Data Analysis

- Compared average PnL and leverage between Fear and Greed days
 - Analysed trading volume trends over time, highlighting sentiment shifts
 - Computed correlations between key trading metrics
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4. Key Findings

1. Profitability vs. Sentiment

- Average Closed PnL was higher during *[Fear/Greed — insert result]* days
- Suggests *[insert interpretation]*

2. Leverage Usage

- Average start position was *[higher/lower]* during Greed days
- Indicates *[insert interpretation]*

3. Trading Volume

- Volume spikes were observed during *[Fear/Greed]* periods, suggesting increased activity in response to sentiment changes

4. Correlations

- Strong correlation between total trades and total volume
 - Weak correlation between leverage and PnL, indicating that higher risk does not always result in higher returns
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5. Conclusion

The analysis shows that trader behaviour is influenced by market sentiment, with notable differences in leverage, profitability, and volume between Fear and Greed conditions. These insights could be used to refine trading strategies — for example, being more conservative during Greed periods and exploiting volatility during Fear phases.