

TRADER SENTIMENT ANALYSIS SUMMARY

1. Methodology

This analysis examined the relationship between market sentiment (Fear/Greed Index) and trader performance using trade-level transaction data.

The workflow consisted of:

Data Processing & Feature Engineering

- Aggregated trade-level records into daily trader metrics.
- Computed behavioral features including daily PnL, win rate, trade count, and long exposure ratio.
- Merged sentiment classification (Extreme Fear to Extreme Greed) to daily observations.
- Created segmentation variables for exposure (High vs Low), activity (Frequent vs Infrequent), and consistency (Consistent vs Inconsistent).

Statistical Analysis

- Compared mean profitability and behavioral metrics across sentiment regimes.
- Conducted ANOVA testing to assess statistical significance.
- Evaluated differences in trading activity and directional bias across market conditions.

Predictive Modeling

- Built a Logistic Regression model to predict next-day profitability (binary outcome).
- Features included sentiment dummies and behavioral metrics.
- Model performance evaluated using accuracy, precision, recall, and confusion matrix.

2. Key Insights

Insight 1: Sentiment Influences Trading Behavior More Than Profitability

Charts comparing long ratio and trade count across sentiment regimes show significant behavioral shifts (ANOVA $p < 0.001$). However, average daily PnL differences across sentiment regimes were not statistically significant.

This suggests that traders adjust positioning during different sentiment states, but profitability itself is not directly determined by sentiment alone.

Insight 2: Behavioral Segments Drive Performance Differences

Segment comparison charts demonstrate:

- High exposure traders outperform low exposure traders during volatile regimes.
- Frequent traders outperform infrequent traders.
- Inconsistent traders generate higher raw returns but exhibit significantly greater volatility.

This indicates that trading style and consistency are stronger determinants of outcomes than sentiment classification alone.

Insight 3: Short-Term Performance Persistence Exists

The predictive model achieved approximately 69% accuracy in forecasting next-day profitability.

Feature importance analysis shows:

- Daily win rate is the strongest positive predictor.
- Long bias increases probability of next-day profitability.
- Infrequent and inconsistent trading behavior reduces predictability.

This suggests short-term behavioral momentum effects in trader performance.

3. Strategy Recommendations

Based on the analysis:

1. Incorporate behavioral momentum signals such as daily win rate into short-term trading decision frameworks.
2. Favor consistent and frequent traders for capital allocation strategies.
3. Adjust exposure dynamically during Extreme Greed regimes where directional bias strengthens.
4. Implement tighter risk controls for inconsistent traders due to higher volatility profiles.
5. Avoid relying solely on sentiment for profitability forecasting; combine sentiment with behavioral metrics for better predictive power.