



TRADING SYSTEMS AND AI

STYLES OF TRADING

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● Scalping

● Intraday Trading

● Swing Trading

● Positional Trading

SCALPING

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Scalping is an extremely short-term trading strategy where traders aim to profit from small price movements. Scalpers make numerous trades within a day, sometimes holding positions for just a few seconds to minutes. They rely on high trading volume and liquidity to make small but frequent profits, which can add up over time.

FROM OCT 2024, **STT is going to DOUBLE**, so Scalping is Less Profitable.

INTRADAY TRADING

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Intraday Trading:

Also known as day trading, this style involves opening and closing positions within the same trading day. Intraday traders don't hold positions overnight to avoid exposure to overnight risks. They typically use technical analysis and short-term price movements to make trading decisions, aiming to capitalize on the market's daily volatility.

SWING TRADING

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Swing Trading:

Swing traders hold positions for several days to weeks, attempting to profit from "swings" in the market's momentum. This style sits between day trading and long-term investing. Swing traders use both technical and fundamental analysis to identify potential price movements and often aim to capture a significant portion of a trend.

POSITIONAL TRADING

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Positional Trading:

Positional trading is a longer-term strategy where traders hold positions for weeks, months, or even years. This approach is based on the belief that larger price movements occur over extended periods. Positional traders often use a combination of fundamental analysis, technical analysis, and macroeconomic factors to make trading decisions. They're typically less concerned with short-term market noise and focus on larger market trends.

TYPES OF STRATEGIES

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- Trend Following
- Mean Reversion
- Breakout Strategy
- Reversal Strategy
- Pair Trading Strategy

Aspect	Trend Following	Mean Reversion
Basic Premise	Prices will continue moving in the current direction	Prices will return to their average
Market Assumption	Markets trend over time	Markets oscillate around an average
Entry Signal	When price confirms a trend	When price deviates significantly from average
Exit Signal	When trend shows signs of reversal	When price returns to average
Profit Source	Large, sustained price movements	Frequent smaller price movements
Typical Holding Period	Longer (to capture full trend)	Shorter (until reversion occurs)
Win Rate	Generally lower	Generally higher
Risk/Reward Ratio	Higher potential reward, higher risk	Lower potential reward, lower risk
Best Market Conditions	Strong trending markets	Range-bound, volatile markets
Common Tools	Moving averages, trend lines, momentum indicators	Oscillators, Bollinger Bands, standard deviation
Psychological Challenge	Holding through drawdowns	Acting against recent price action
Example Instruments	Futures, forex, stocks	Stocks, ETFs, commodities
Typical Performance	Can underperform in choppy markets, outperform in trending markets	More consistent returns, but may miss big moves

Aspect	Breakout Strategy	Reversal Strategy
Basic Principle	"Ride the momentum of a new trend"	"Catch the turning point of a trend"
Market Belief	Price will continue in the direction of the break	Existing trend is losing steam and will change direction
Entry Timing	When price breaks through a key level or pattern	When signs of trend exhaustion or reversal appear
Exit Timing	When the new trend shows signs of weakening	After capturing the initial move of the new trend
Profit Source	Strong price movements following trends	Catching the beginning of a new a breakout
Time Frame	Can be applied to various time frames	Often short to medium-term
Risk	False breakouts; sudden reversals, false reversal signals	Missing the actual reversal point;
Typical Tools	Support/resistance levels, chart patterns, volume	Candlestick patterns, momentum indicators, divergences
Market Conditions	Performs best in volatile markets with clear levels	Can work in both trending and ranging markets
Psychology Required	Quick decision-making, confidence in the breakout	Patience to wait for confirmation, contrarian thinking
Examples	Buying when price breaks above resistance	Selling when an uptrend shows signs of exhaustion
Drawbacks	Can lead to late entries if breakout is missed	Difficult to consistently identify exact reversal points

PAIR TRADING

PAIR TRADING

Pair trading is a market-neutral trading strategy that involves simultaneously taking positions in two related securities. The core idea is to profit from the relative performance of these securities, regardless of the overall market direction. Here's a brief overview:

- **Concept:** Identify two assets that have a historically stable price relationship.
- **Strategy:** When this relationship deviates from its historical norm, traders bet on it returning to the average.
- **Execution:** Go long (buy) the underperforming asset and short (sell) the overperforming asset.
- **Profit:** As the price relationship normalizes, the trader profits from both positions.
- **Risk Management:** The strategy is relatively market-neutral, providing some protection against broad market movements.
- **Analysis:** Traders use statistical measures like correlation and cointegration to identify opportunities.

Example of
PAIR TRADING

Example of PAIR TRADING

- **Let's consider two major Indian IT companies:** Infosys and Tata Consultancy Services (TCS).
- **Historical Relationship:** Suppose over the past year, the price ratio of Infosys to TCS has averaged 0.75, meaning Infosys typically trades at 75% of TCS's price.
- **Current Situation:** Due to some market events, Infosys's price rises significantly while TCS remains stable. The current ratio becomes 0.85.
- **Trade Setup:** A pair trader would see this as a deviation from the norm and expect the ratio to return to 0.75.
- **Trade Execution:**
 - ❖ Short Infosys (the overperforming stock)
 - ❖ Buy TCS (the underperforming stock)

Example of PAIR TRADING

- **Scenario:** Let's say you invest ₹10,00,000, allocating ₹5,00,000 to each position.
 - ❖ Short 100 shares of Infosys at ₹5,000 per share
 - ❖ Buy 67 shares of TCS at ₹7,500 per share
- **Outcome:** If the ratio returns to 0.75, it could happen in two ways:
 - ❖ Infosys falls to ₹4,500 and TCS remains at ₹7,500
 - ❖ TCS rises to ₹8,000 and Infosys remains at ₹5,000 In both cases, you profit from the Infosys short and may have a small loss or gain on TCS, but the net result is positive.
- **Risk Management:** If both stocks move up or down together, your gains on one position would largely offset losses on the other.

INTRADAY TREND

TRADING

INTRADAY TREND TRADING

- SMA and EMA
- Pivot Extension
- MACD
- VWAP
- RSI
- ATR
- SuperTrend
- Marubozu Candle

INTRADAY

REVERSAL TRADING

INTRADAY REVERSAL TRADING

- **Pivot Extension**
- **MACD**
- **RSI Divergence**
- **ATR**
- **Hammer, Hanging Man, Morning and Evening Star, Shooting Star, Engulfing Candlestick Patterns**

SWING TREND

TRADING

SWING TREND TRADING

- SMA and EMA
- Pivot Extension
- MACD
- VWAP
- RSI
- ATR
- SuperTrend
- Marubozu Candle
- Chart Patterns – Cup and Handle , Flag, Triangles

SWING REVERSAL

TRADING

SWING REVERSAL TRADING

- RSI Divergence
- ATR
- Hammer, Hanging Man, Morning and Evening Star, Shooting Star, Engulfing Candlestick Patterns
- Double/Triple Top/Bottom Patterns
- Price Action

PRICE ACTION

PRICE ACTION

- **52W, 6M, 1M, 1W High/Low – For Swing/Positional Trades**
- **OH = Open High, OL = Open Low - For Intraday Trades**
- **Prev Day High/Low - Intraday**
- **Gap - For Swing and Intraday**
- **OPENING RANGE (OR) – 15min, 30min - Intraday Trades**
- **Dow Theory**
- **NR4, NR7**

Common Strategy

Requirements

Common Strategy Requirements

Entry Condition

- **Complete Entry** - This involves entering the entire position at once when the entry criteria or signals are met.
- **Staggered Entry** - Instead of entering the entire position at one time, this involves entering the trade in multiple smaller parts over time, based on specific conditions or signals.

Stoploss Condition

- **Price Stop** - A stoploss is placed at a predetermined price level. If the price hits this level, the position is automatically exited to limit losses.
- **Time Stop** - A stoploss is based on time rather than price. If the trade does not perform as expected within a certain period, the position is closed, regardless of price.

TRADING STRATEGY

ANALYSIS TOOLS

TRADING STRATEGY ANALYSIS TOOLS

Win Rate (Success Rate):

- **Definition:** The percentage of trades that were profitable.
- **Formula:** $(\text{Number of Winning Trades} / \text{Total Number of Trades}) * 100$
- **Interpretation:** A higher win rate suggests a greater percentage of successful trades but must be considered with risk-reward ratios.

Average Profit/Loss per Trade:

- **Definition:** The average profit/loss generated by each trade.
- **Formula:** $\text{Total Profit(Loss)} / \text{Number of Trades}$
- **Interpretation:** Indicates the expected return per trade.

TRADING STRATEGY ANALYSIS TOOLS

Risk-Reward Ratio:

- **Definition:** The ratio between the average profit per winning trade and the average loss per losing trade.
- **Formula:** Average Profit / Average Loss
- **Interpretation:** A ratio greater than 1 suggests that the strategy makes more on winning trades than it loses on losing trades.

Maximum Drawdown (MDD):

- **Definition:** The largest peak-to-trough decline in account balance during the trading period.
- **Formula:** $(\text{Peak Equity} - \text{Trough Equity}) / \text{Peak Equity} * 100$
- **Interpretation:** A measure of risk that shows the worst-case loss from a peak in equity.

TRADING STRATEGY ANALYSIS TOOLS

Profit Factor:

- **Definition:** The ratio of the total profit of winning trades to the total loss of losing trades.
- **Formula:** Total Profit of Winning Trades / Total Loss of Losing Trades
- **Interpretation:** A profit factor greater than 1 means the strategy is profitable overall.

Expectancy:

- **Definition:** The average expected return per trade, considering both the probability of winning and losing.
- **Formula:** $(\text{Win Rate} * \text{Average Win}) - (\text{Loss Rate} * \text{Average Loss})$
- **Interpretation:** Positive expectancy indicates a profitable strategy.

TRADING STRATEGY ANALYSIS TOOLS

Trade Frequency:

- **Definition:** The number of trades made over a specific period.
- **Interpretation:** Higher frequency might increase potential profits but also involves more trading costs.

CAGR (Compound Annual Growth Rate):

- **Definition:** The rate at which your equity grows annually over time, considering compounding.
- **Formula:** $[(\text{Ending Balance} / \text{Starting Balance}) ^ (1 / \text{Number of Years})] - 1$
- **Interpretation:** A measure of long-term performance.

TIPS FOR DESIGNING A

TRADING STRATEGY

TIPS FOR DESIGNING A TRADING STRATEGY

DEFINE CLEAR OBJECTIVES

- Time Horizon
- Risk Tolerance
- Profit Goals

TIPS FOR DESIGNING A TRADING STRATEGY

HAVE A TRADING JOURNAL

- Date and Time of Trades
- Entry and Exit Prices
- Results and Thoughts of the Trade

TIPS FOR DESIGNING A TRADING STRATEGY

LEARN FROM MISTAKES

- Consistency
- Poor Risk Management
- Over Complication