Template: Monte Carlo Simulation Data Template for Trading Strategy Evaluation

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Based on Article: "The Role of Historical Data in Monte Carlo Simulations"
Website: https://nairafx.ng

A practical template to extract, organize, and track historical trade, market, and account data to power Monte Carlo simulations for evaluating trading strategies, especially for Nigerian Forex traders managing USD/NGN exposure and associated costs.

Checklist Items:

- [ ] **1. Collect Market History Data**
  Gather records of price, spread, volume, and volatility during the trading period. This data helps test how a strategy behaved in varying market conditions to model different scenarios realistically.
  Reference Section: What Historical Data Means in Monte Carlo Simulations

- [ ] **2. Assemble Trade History Records**
  Compile detailed entries for each trade including entry and exit timestamps and prices, trade direction (buy/sell), position size, profit or loss, sequence order, and trade status. This forms the basis for reshuffling trades in the simulation.
  Reference Section: What Historical Data Means in Monte Carlo Simulations

- [ ] **3. Include Account History Information**
  Record all relevant account-level data such as deposits, withdrawals, commissions, swap (rollover) charges, currency conversion adjustments, and balance changes. These factors influence usable capital and risk calculations in a live NGN trading environment.
  Reference Section: What Historical Data Means in Monte Carlo Simulations

- [ ] **4. Clean and Validate Historical Data**
  Remove duplicate trades, skipped or unrealizable signals, and trades from inactive periods. Verify accuracy of fills, costs, and trade details to ensure the simulation reflects realistic trading conditions without bias from data errors.
  Reference Section: How Historical Data Powers a Monte Carlo Simulation

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- [ ] **5. Calculate Per-Trade Execution Costs**
For each trade, include spread, commissions, slippage, swaps, and currency conversion costs. Recalculate net profit or loss after these deductions to reflect real trading friction, especially accounting for wider costs during market disruptions like power outages.
Reference Section: How Historical Data Powers a Monte Carlo Simulation

- [ ] **6. Quantify Key Metrics for Tracking**
Measure and track the following statistics from historical and simulated data: (1) Total net return (%) after costs, (2) Maximum drawdown (% and NGN amount), (3) Longest losing streak (number of trades), (4) Average trade win/loss ratio, (5) Probability of ruin (account depletion risk), (6) Median return across simulations, (7) Range of drawdown outcomes, (8) Number of trades in dataset, (9) Variations in spread and slippage encountered, (10) Recovery time after drawdowns (number of trades or days). These provide a comprehensive risk-return profile.
Reference Section: How Historical Data Powers a Monte Carlo Simulation

- [ ] **7. Configure Monte Carlo Simulation Parameters**
Define parameters such as number of reshuffled sequences (e.g., 10,000), length of each simulated path (100 to 500 trades), and modeling assumptions (preserving win-loss patterns, incorporating real cost variability). Document assumptions clearly for transparency.
Reference Section: What Historical Data Means in Monte Carlo Simulations

- [ ] **8. Interpret Simulation Results with Risk Focus**
Focus on the distribution and range of outcomes rather than single best or average returns. Pay close attention to worst-case drawdowns, duration of losing streaks, and probability of run-in risk exceeding your NGN capital constraints before making decisions.
Reference Section: How to Apply the Results to Safer Trading Decisions

- [ ] **9. Compare Historical Data Against Live Trading Constraints**
Evaluate whether live costs such as broker fees, power interruptions, or variable liquidity conditions could erode the edge seen in backtests. Use historical cost and execution quality data as inputs to stress test the strategy under realistic live conditions.
Reference Section: Why Historical Data Matters to Nigerian Forex Traders

- [ ] **10. Document and Share Data Assumptions and Limitations**
Keep clear records of data sources, cleaning steps, modeling assumptions, and known limitations. Use this transparency to facilitate discussions between signal providers, educators, algorithm developers, and traders, ensuring shared understanding and trust.
Reference Section: Why Historical Data Matters to Nigerian Forex Traders

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