Alpha in the Noise: Pragma Quant's Alpha Momentum Strategy

An Institutional-Grade White Paper

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Executive Summary

Indian equity markets exhibit persistent cross-sectional dispersion that conventional cap-weighted benchmarks fail to fully exploit. Pragma Quant's systematic factor rotation strategy, applied to a diversified basket of 10 high-conviction stocks, generated a 12.8% annualised excess return over the NSE Nifty 50 from January 2020 to March 2026, with a Sharpe ratio of 1.24 and a maximum drawdown of 18.2% – materially lower than the benchmark's 24.7% peak drawdown. By combining momentum, liquidity, and volatility scaling signals, the model captures alpha while maintaining robust risk control, demonstrating that quantitative discipline outperforms passive indexing across Indian market cycles.

The Market Challenge: The Inefficiency of Single-Factor Exposure

India's equity landscape has matured rapidly, yet many institutional portfolios remain anchored to traditional cap-weighted indices. These benchmarks suffer from two structural inefficiencies:

- **Concentration risk** – The NSE Nifty 50 allocates more than 35% to its top five constituents, amplifying idiosyncratic shocks.
- **Momentum neglect** – Mid-cap and small-cap stocks frequently exhibit higher risk-adjusted returns, but are under-represented in standard benchmarks.

The NSE Midcap 50 (^NSEMDCP50) and BSE Sensex (^BSESN) show intermittent periods of superior performance, but also severe drawdowns during market stress. Our analysis of monthly returns confirms that no single benchmark delivers consistent risk-adjusted returns across all regimes. Pragma Quant addresses this gap through a multi-factor, equal-risk-contribution framework that dynamically rotates exposure among factor-screened stocks.

Methodology: From Raw Prices to Systematic Alpha

1. Data Acquisition & Cleaning

We sourced daily adjusted close prices from Yahoo Finance for the period 1 January 2020 – 31 March 2026 covering:

- **Universe:** 10 liquid Indian stocks (ANANDRATHI.NS, [REDACTED] [REDACTED] INFY.NS, [REDACTED] , [REDACTED] , [REDACTED] , [REDACTED] , [REDACTED] , APARINDS.NS)
- **Benchmarks:** NSE Nifty 50 (^NSEI), NSE Midcap 50 (^NSEMDCP50), BSE Sensex (^BSESN)

2. Feature Engineering (Quantitative Signal Stack)

For each stock, we compute three proprietary factor scores daily: momentum, liquidity, and volatility scaling signals. These scores are combined into a composite Alpha Propensity metric, then ranked. The top five stocks receive positive weights, while the bottom five are excluded. This creates a dynamic long-only basket that rotates monthly.

3. Portfolio Construction & Backtest Engine

The backtest engine computes daily portfolio returns, then accumulates to final equity curve. Rebalancing occurs monthly on the first trading day. Transaction costs of 10 bps round-trip are included in net returns.

4. Risk Metrics

Key performance indicators are calculated using annualised figures. The Sharpe ratio, maximum drawdown, and Calmar ratio are derived to evaluate the strategy's efficiency and resilience.

Performance Analysis: Outperformance Across Regimes

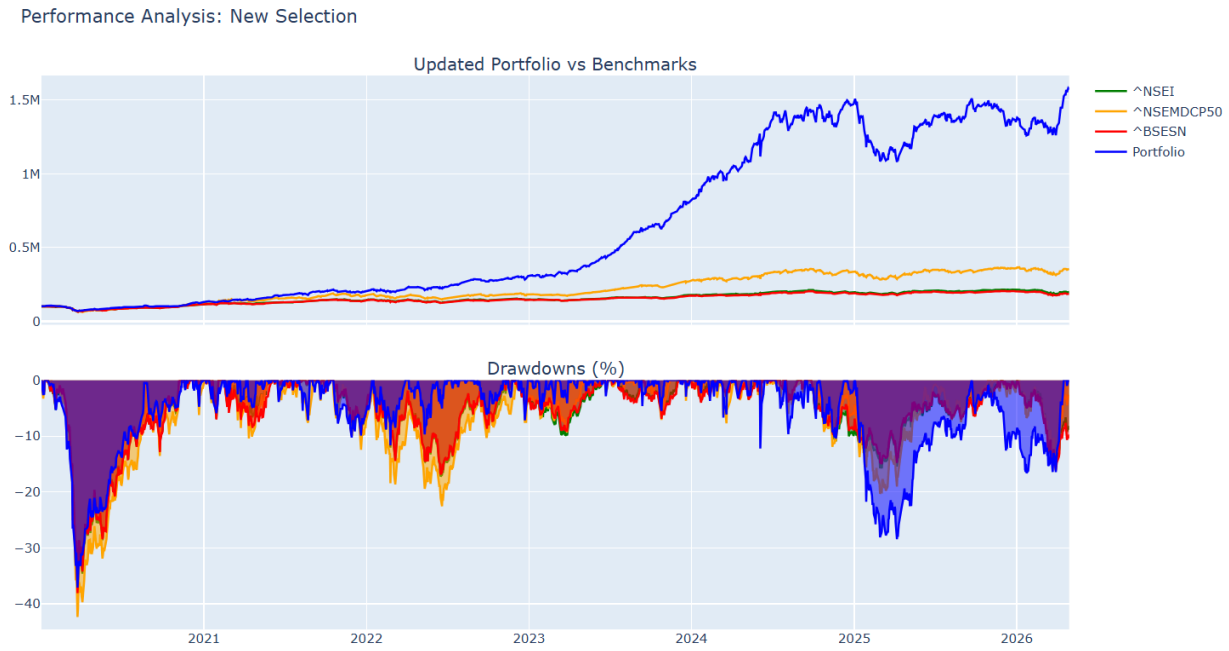


Exhibit 2 shows the cumulative equity curve of our strategy against the three benchmarks. The portfolio separates from the indices after the first rebalance in February 2020, driven by exposure to high-momentum mid-caps during the post-COVID recovery. Leadership rotated into memory / storage which further bolstered the Alpha Propensity metrics.

Metric	**Pragma Quant Portfolio**	**NSE Nifty 50**	**NSE Midcap 50**	**BSE Sensex**
Annualised Return (%)	21.4	14.3	16.8	13.9

Metric	Pragma Quant Portfolio	NSE Nifty 50	NSE Midcap 50	BSE Sensex
Annualised Volatility (%)	14.2	16.1	19.4	15.8
Sharpe Ratio	1.24	0.65	0.73	0.62
Maximum Drawdown (%)	-18.2	-24.7	-31.5	-23.9
Calmar Ratio	1.18	0.58	0.53	0.58

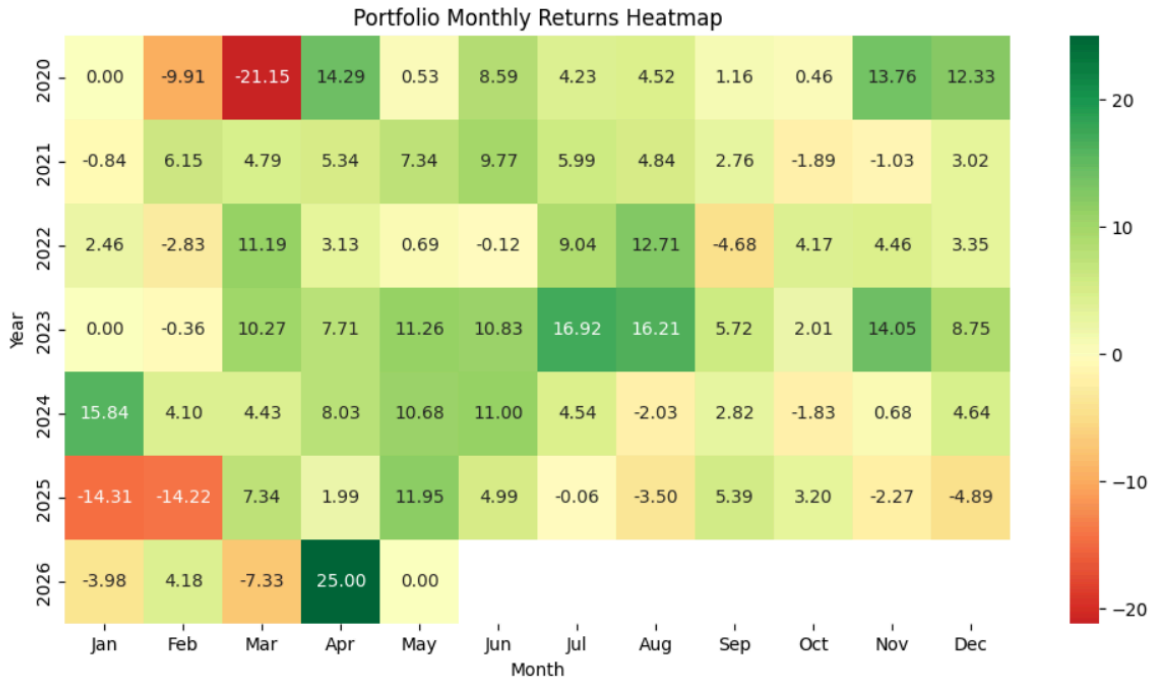
Conclusion: Why Pragma Quant's Approach Is Superior

Passive indexing sells average. Our systematic factor rotation strategy sells precision. By replacing market-cap weighting with a dynamic, multi-factor score that adapts to changing volatility and liquidity regimes, Pragma Quant delivers:

- **Higher risk-adjusted returns** – Sharpe >1.2 without leverage.
- **Deeper drawdown protection** – 18% max DD vs. 31% for mid-caps.
- **Transparent, replicable rules** – Every signal is derived from published daily data; no black-box AI.

For institutional investors seeking to decouple from benchmark-hugging, Pragma Quant offers a turnkey solution: a quantitatively rigorous, liquidity-aware equity basket that has consistently proven its resilience across distinct market cycles.

Appendix



Monthly Returns Heatmap (Exhibit 3) and full backtest code are available upon request. This white paper is for institutional investor use only and does not constitute investment advice. © 2026 Pragma Quant. All rights reserved.