

Investment Operations and Performance

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Agenda

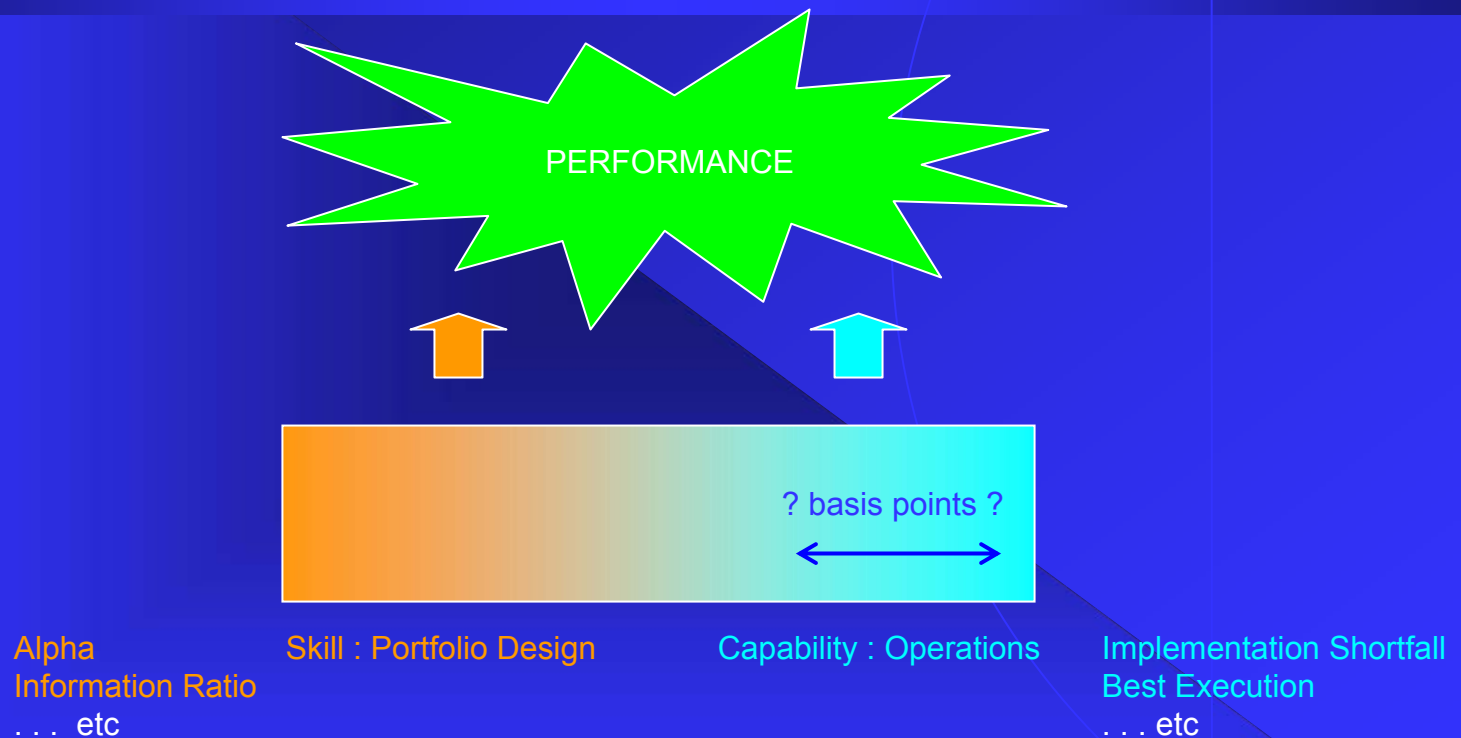
- ◆ Motivation
- ◆ Data
- ◆ Results
- ◆ Conclusions

Motivation

How much does operational efficiency contribute to manager performance ?

- historical focus of attribution : manager skill
 - need 'Ops' to realize full value from investment ideas
- explore additional metric for due diligence
 - RFP process, incl. tracking managers in a pool
 - ongoing assessment, incl. potential termination

Conceptual Framework



Research Data

- ◆ Transactional data from Q4'99-Q2'06 client projects
 - identify and address key operational inefficiencies
- ◆ 52 'ideal samples' (from 138 products across 19 firms)
 - all factors constant except *one* operational change
 - process eg, corp actions management
 - technology eg, optimized algorithmic trading
 - attribution constant, returns and measures improving
 - measurable effects within 9 months from start

Research Data (cont . . .)

PROFILE OF SAMPLES

- ◆ Firms \$ 5-100+B AUM range
- ◆ Strategies ≤ \$ 1.1 B across clients
- ◆ Assets Equity [~65%], F.Inc [~15%], Derivatives
- ◆ Geographies Global (developed [~80%], emerging)
- ◆ Sectors all, incl Alternatives
- ◆ Strategies incl Long | Short; Equitization

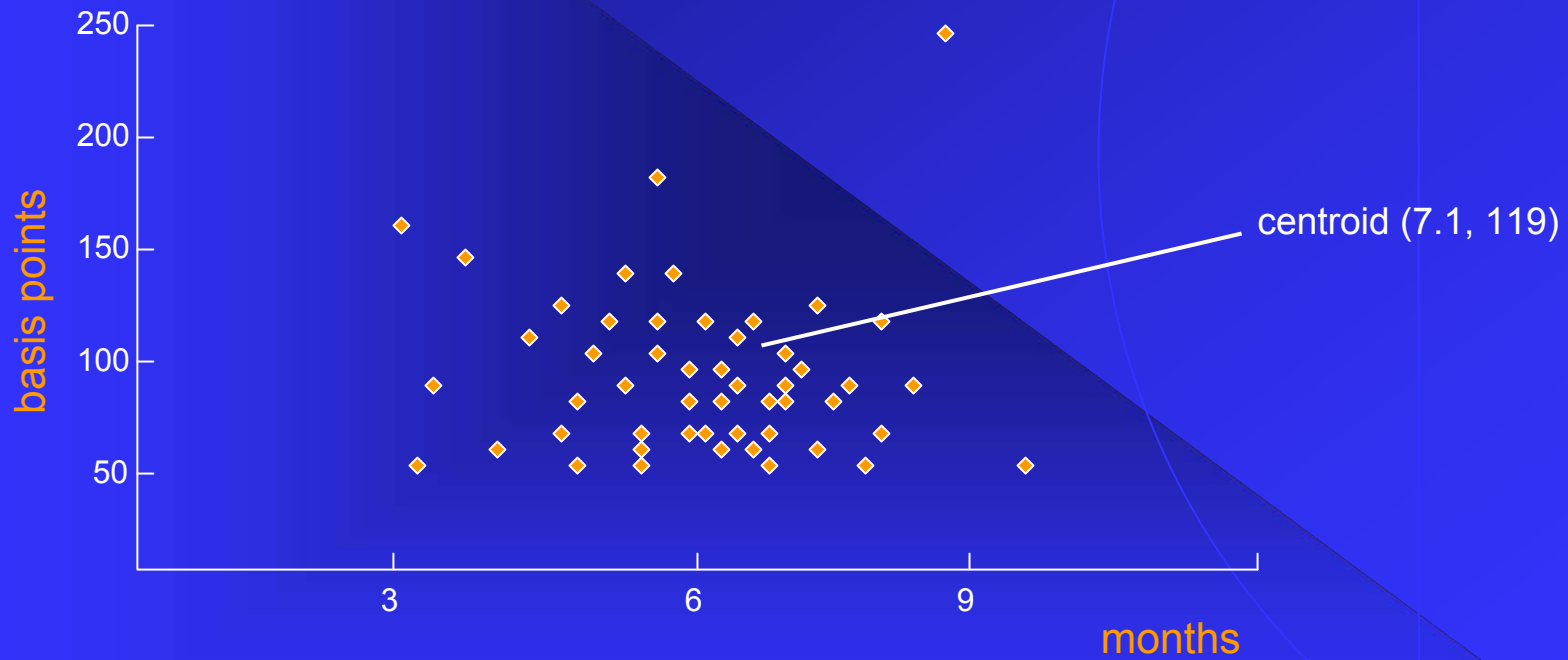
Primary Conclusion

Source 50-250 basis point improvement in performance

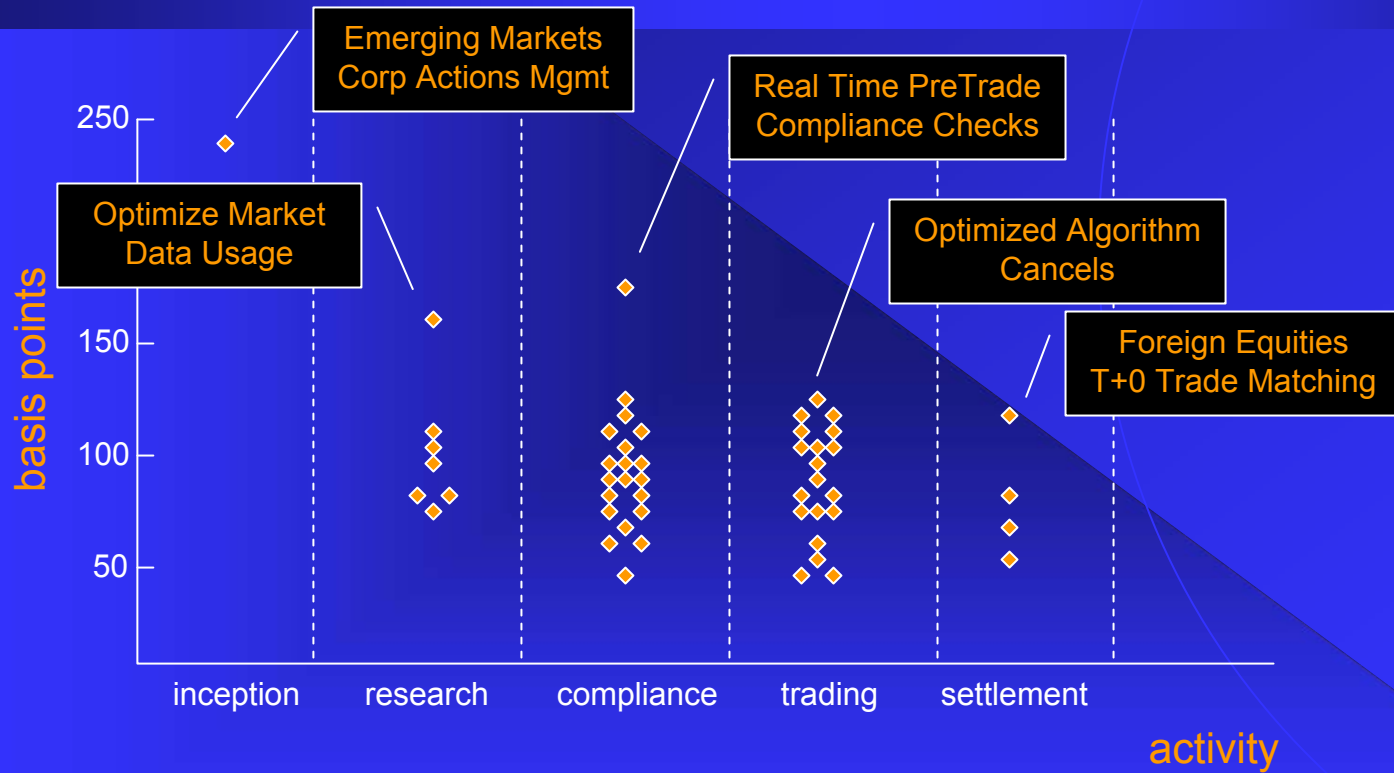
- ◆ annualized
- ◆ gross of fees

by *identifying* and *resolving* key inefficiencies
within a manager's investment operations

Observations



Observations (cont...)



Other Conclusions

- ◆ Single optimizations dominate
 - clarifies ROI for remediation options
 - focuses effort on substantive initiatives
- ◆ Optimizations are not additive
 - due to correlated effects
- ◆ Root Cause : ‘Information Latency’

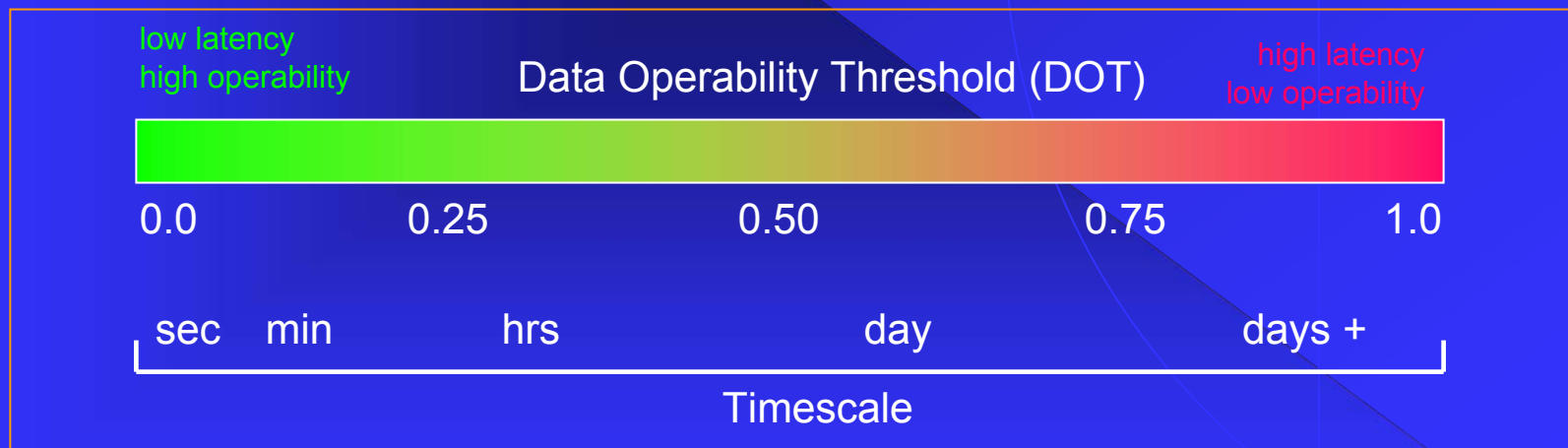
Applications and Benefits

- ◆ Institutional Investor : *forecasting tool*
 - to improve fiduciary oversight
 - identify, engage and retain skilled managers
 - within the RFP process, incl. monitoring 'pools'
 - on-going due diligence, inc. evaluating termination
- ◆ Investment Manager : *prescriptive tool*
 - to improve strategy | product performance
 - capture and retain clients

Appendix

Information Latency Impact

the inability of people and systems to deliver and act on information in a timely manner



Information Latency : Schematic

Mapping FROM Data Item

Mapping TO Data Item

	F:48	S:35B	P:ID	M:- -
F:48	0.19	0.83	0.98	0.94
S:35B	0.96	0.38	0.88	0.98
P:ID	0.86	9.97	0.00	0.00
M:- -	0.86	0.98	0.00	0.00

Example : SECURITY IDENTIFIERS
SWIFT message field : '35B'
FIX message field : '48'
Proprietary data field : 'ID'
Manual (no automation)

METRIC

- Data Operability Threshold (DOT)
- value between 0 and 1
 - 0 = low latency; high operability
 - 1 = high latency; low operability

Methodology

1. Profiling & Monitoring

- daily upload of key data, eg
 - inputs to model(s)
 - outputs from optimizers, compliance, OMS's
 - any format : manual or electronic
 - timestamped
- minimum observation window
 - three contiguous calendar months

2. Remediation

Underlying Techniques

- ◆ Investment Operations Transaction Analysis (IOTA™)
- ◆ Focuses on data used ‘in flight’
 - predominantly transactions (internal & external)
- ◆ Results generated by two key analytic modules
 - ContextMetrics™ : data profiling
 - ContextStreams® : data operability thresholds

References

- ◆ Grody A, Harmantzis F and Kaple G. 2005. Operational Risk and Reference Data. Financial InterGroup Research Paper, Nov 2005. 88 p
- ◆ Jovellanos C. 2004. ContextMetrics™ :Semantic and Syntactic Interoperability in Cross-Border Trading Systems. 20th International Conference on Data Engineering (ICDE '04 - April 2004). pp 808-810
- ◆ Jovellanos C. 2006. Measuring the Impact of Transactional Data Quality on Operational Risk and Capital Adequacy for Global Investment Banks. M.I.T. 11th International Conference on Information Quality. 19 p