How Matlab Did The Work of 40 People and Accelerated Investment Strategy Development

Aku Penttinen, Ph.D.
How many here today work or would like to work with investment strategy development?
How many would consider or dream about running their own fund?
Please ask questions any time
What is investment strategy development?
Manipulation of data to test ideas
Data acquisition + reports
↓
Data storage and cleaning + reports
↓
Data combination + reports
↓
Strategy testing + reports
↓
Strategy implementation + reports
What is the most efficient form of organization?
The traditional view: A distributed framework

Data acquisition

Data storage and cleaning

Data combination

Strategy testing

Strategy implementation
The setting for a thought
MATLAB Computational Finance Conference 2014
New York Marriott Marquis, New York, NY, April 9th, 2014
Presentation by Aku Penttinen, Ph.D.
The commute
Brisbane, Australia
A unified framework

Data acquisition
↓
Data storage and cleaning
↓
Data combination
↓
Strategy testing
↓
Strategy implementation

“All in one”
Distributed vs. unified frameworks
Factors to consider

Creativity
Security
Quality
Efficiency
Speed
Scalability
Stability
Ultimate goal:
- Replicable, risk-adjusted returns not constrained by capacity

Interim performance indicators:
- “Output” per budget unit

Constraints:
- Time
- Budget
<table>
<thead>
<tr>
<th>Distributed</th>
<th>Unified</th>
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<tbody>
<tr>
<td>Creativity</td>
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<tr>
<td>Security</td>
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Why Matlab?
A unified framework

Data acquisition

Data storage and cleaning

Data combination

Strategy testing

Strategy implementation

Matlab
### Modular architecture

<table>
<thead>
<tr>
<th>Data downloader and test platform</th>
<th>6 x strategy development</th>
<th>Trade utility</th>
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<tbody>
<tr>
<td>6 months</td>
<td>11 months</td>
<td>1 month</td>
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Reports, quality assurance, and risk & performance analysis included within architecture
Equity market neutral funds without leverage (UCITS)
Best performance in peer group
Raised 30% of all net investments
Small team to run
Intellectual property protected
“Big data”

Ideal tools for data scientists for finding a legal edge
Please “Link In”
Questions?