

Ask, Learn, Act
An Iterative Approach to Analytics

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2011 Fare Collection Workshop

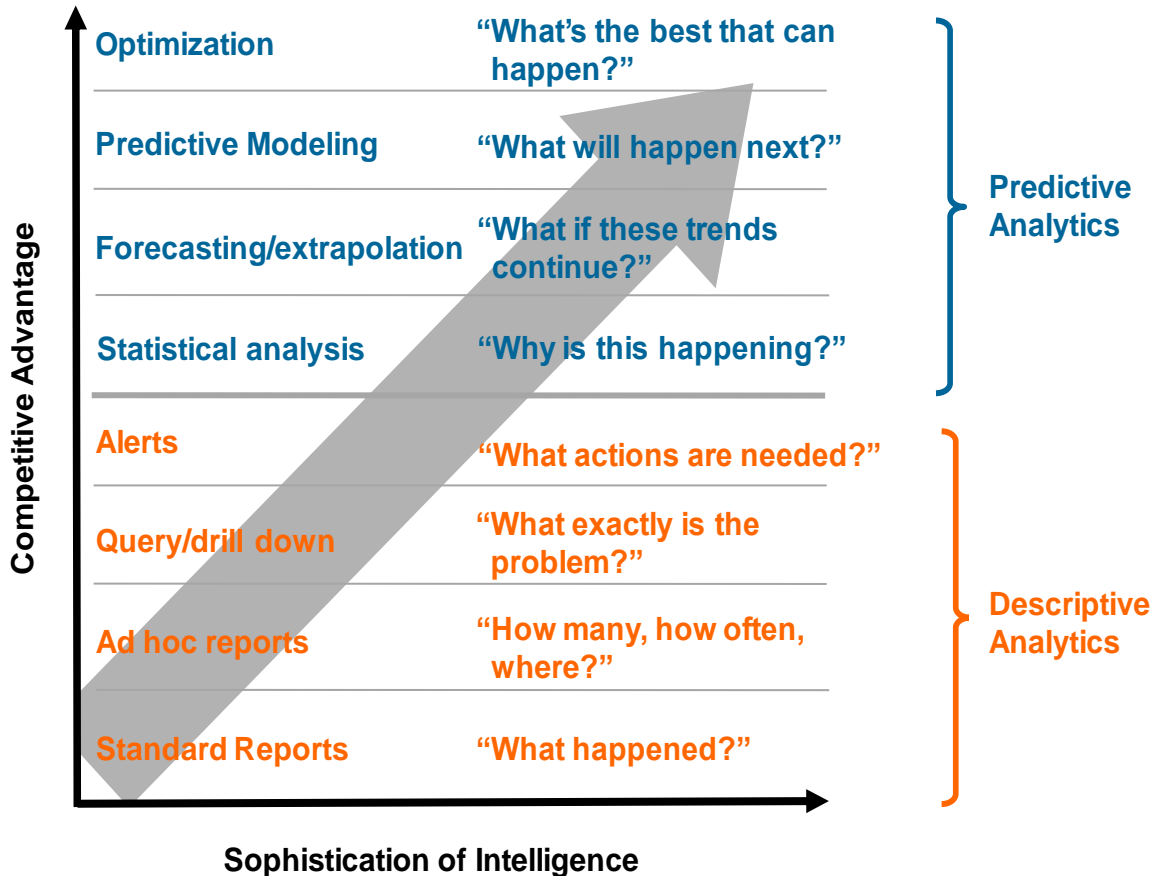


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Analytics Defined



Analytics Defined



Analytic Challenges

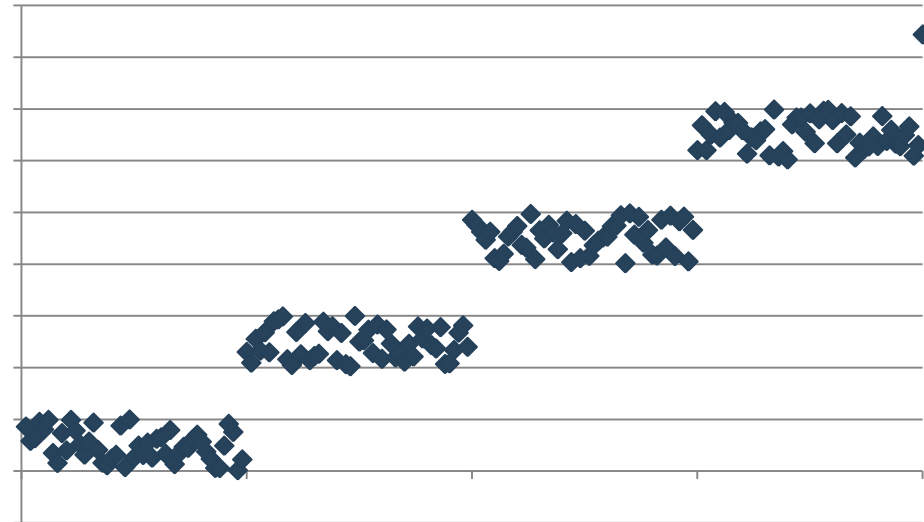
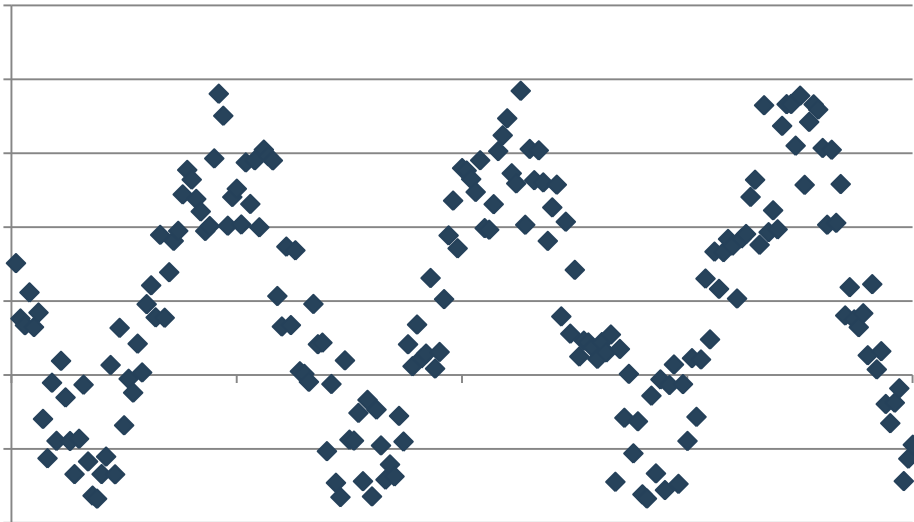
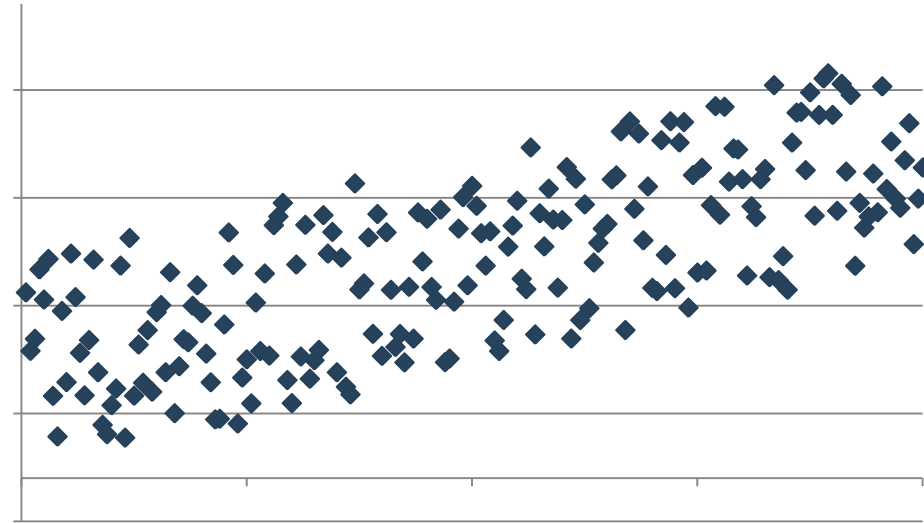
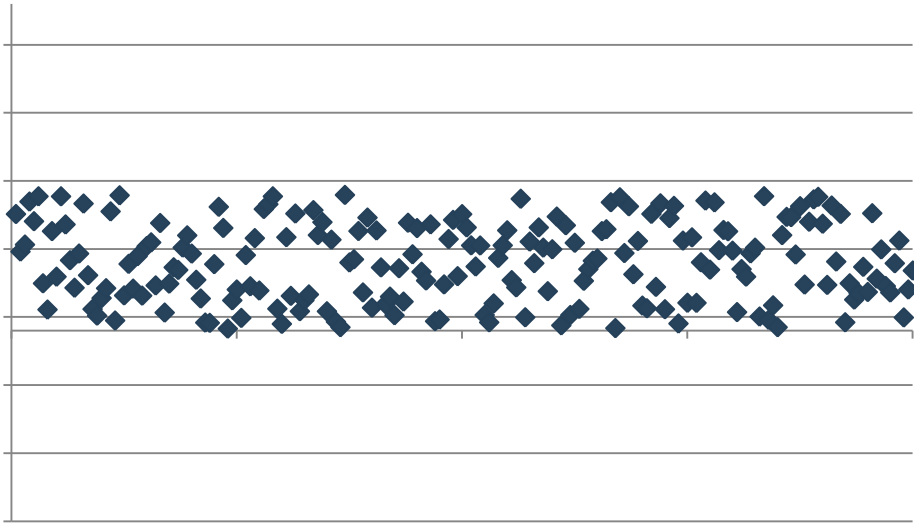
- Data \neq Insight
- Data is often inconsistent
- Analytics resources are scarce and don't always exist within the organization.
- Analytics capability requires deep domain knowledge as well as an understanding of statistics, technology and data governance.

Questions Addressed by Analytics

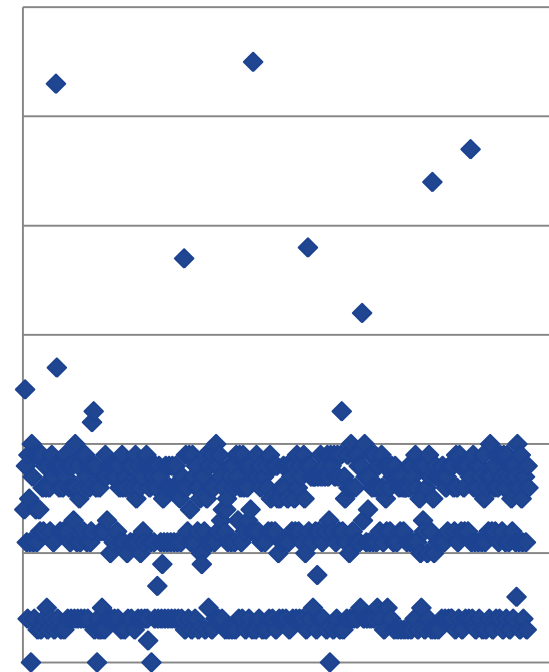
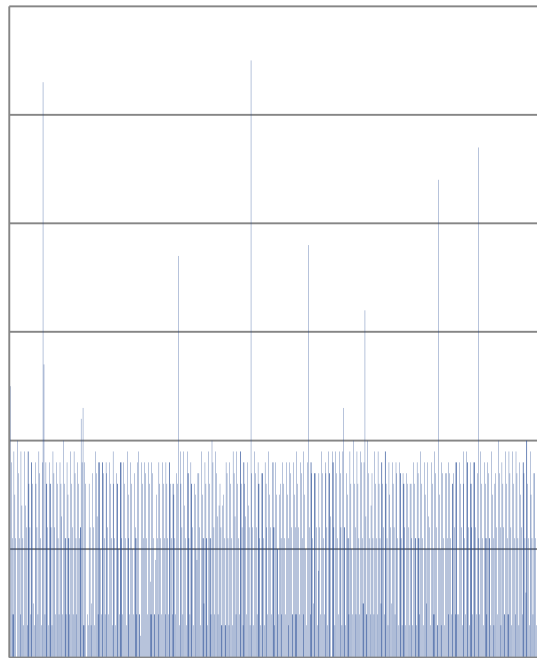


	Past	Present	Future
Information	What Happened? <i>(Reporting)</i>	What is happening now? <i>(Alerts)</i>	What will happen? <i>(Extrapolation)</i>
Insight	How and why did it happen? <i>(Modeling, experimental design)</i>	What is the next best action? <i>(Recommendation)</i>	What is the best/worst that can happen? <i>(Prediction, Optimization, Simulation)</i>

Heteroskedasticity...



Myth – Understanding Data is Hard



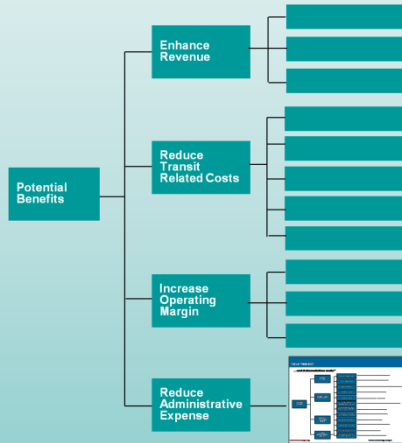
A Path to Analytics



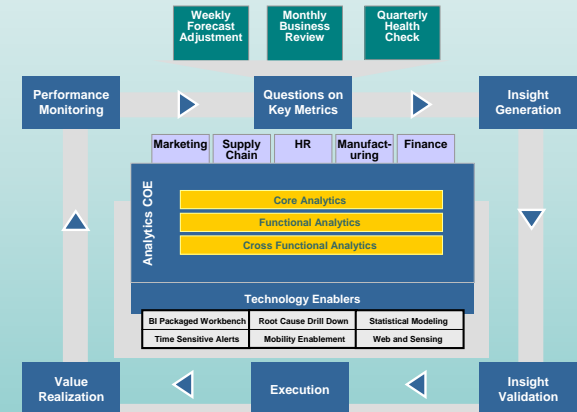
1 Analytic Needs Discovery & Exploitation



2 Key Value Drivers



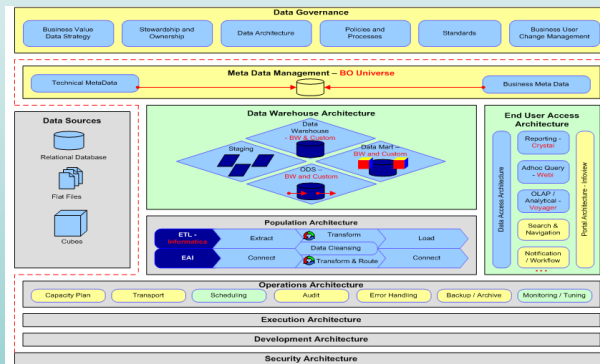
3 Performance Management Processes



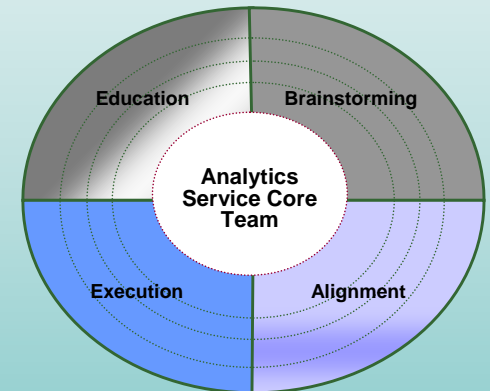
4 Application Enablement



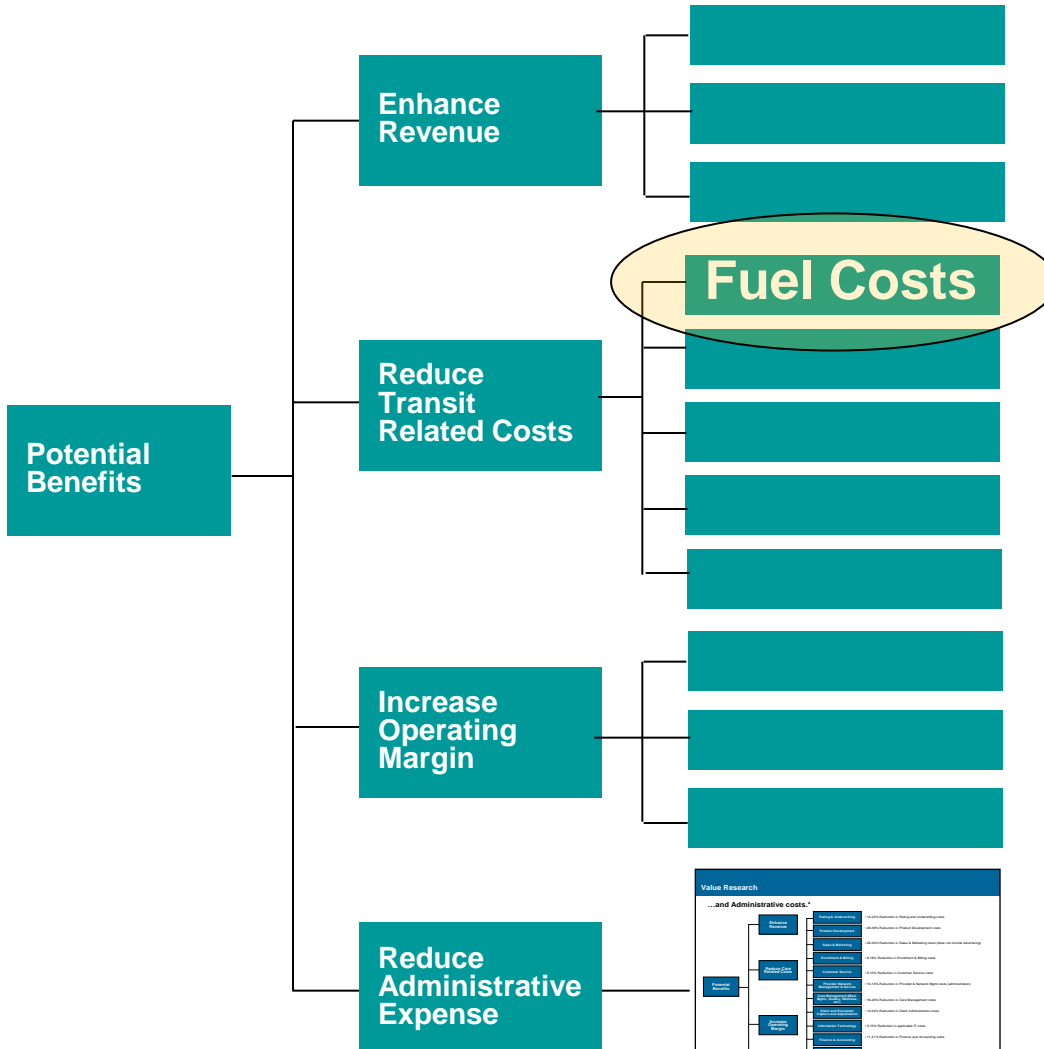
5 Data, and Infrastructure Management



6 Governance and Operating Model

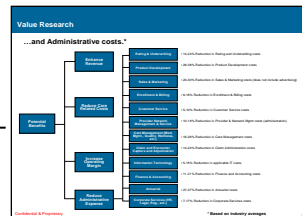


Questions, Questions, Questions



What questions do I ask?

- How much do I spend on fuel?
- Which Routes have the highest fuel costs?
- ... per mile?
- ... per passenger?
- ... per passenger mile?
- ... per fare collected?
- ... on cold days? Hot?
- Are some buses more efficient on this route than others?
- Are some *drivers* more efficient on this route than others?
- Where in the route is my highest fuel spend?
- How much could I save by changing...
Buses? Drivers? Stop Location? Route?



Ask, Learn, Act



What's next?

- Your data is constantly evolving
- Your actions should track to your data
- As you change, new questions will evolve
- Embrace your data





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