Data Visualization Primer

ASPE Web Seminar
A Few Simple Rules Go A Long Way

• Remember what you’re accomplishing
• Really know your user
• Keep it simple
• Use space judiciously
• Focus on the design as much as the data
THE GOAL OF VISUALIZATION

What you’re really trying to accomplish

• Efficiently communicate the right information to the right person
• Tell the story
• Enable better decision making
Two Tales of The Same Information

Common go-to Object

"Bolder", more efficient choice

FYTD Sales

<table>
<thead>
<tr>
<th>Region</th>
<th>FYTD Sales</th>
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<tbody>
<tr>
<td>E Region</td>
<td>9.1</td>
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<td>NW Region</td>
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<td>SW Region</td>
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<td>MW Region</td>
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KNOW THE USER

• Understand what types of decisions are being made
• Timeliness of decisions affects design
• Exception vs. Total Picture
• Some people like more numbers
  ...but you can still help them be more efficient
Alerts or Trends or Both? It Depends.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>Health Indicator</th>
<th>FYTD Revenue</th>
<th>Profit Margin</th>
<th>Consistency of Execution</th>
<th>Pipeline Growth</th>
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<tbody>
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<td>Germany</td>
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KEEP IT SIMPLE

• Ask yourself the question: “Will my user ‘get it’ in less than 5 seconds?”
• Classic chart types are classics for a reason
• Don’t go crazy with color
• Take a minimalist attitude
• Remember the goal
Which Graph Conveys Information Better?
USE SPACE JUDICIOUSLY

• Reduce noise
• Continually ask, “How can I make it cleaner?”
• If it doesn’t help tell the story, it’s out
Zebras Don’t Belong in Graphs

CORE METAL SALES BY REGION

- **Aluminum**
  - EAST: 2.5
  - WEST: 3.5
  - CENTRAL: 4.4

- **Alloy**
  - EAST: 1.8
  - WEST: 2.4
  - CENTRAL: 3.5

- **Steel**
  - EAST: 2.2
  - WEST: 2.8
  - CENTRAL: 4.3

- **Titanium**
  - EAST: 5.0
  - WEST: 2.8
  - CENTRAL: 4.5
Grid-based can be more challenging

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FOCUS ON DESIGN

• Color palette matters
• Go for a clean look
• Don’t clutter with icons and FAQ
• Drill-down versus “Kitchen Sink” approach
• Not all screen locations are created equal
• Reduce or eliminate non-essential features
• Be consistent
An Example of Poor Design
Good Design Techniques Applied

Revenue PYTD ($M)
- SOUTHWEST: $327
- WEST: $225
- CENTRAL: $296
- MID-ATLANTIC: $215
- SOUTHEAST: $267
- MIDWEST: $246
- NORTHEAST: $134
- NORTHWEST: $185

Total Revenue by Quarter ($M)
- Q1 FY14: $230
- Q2 FY14: $306
- Q3 FY14: $172
- Q4 FY14: $516
- Q1 FY15: $475
- Q2 FY15: $335

Profit Margin PYTD
- NORTHWEST: 30%
- SOUTHWEST: 30%
- WEST: 27%
- MID-ATLANTIC: 27%
- SOUTHEAST: 27%
- MIDWEST: 27%
- CENTRAL: 27%
- NORTHEAST: 25%

Profit Margin by Quarter
- Goal: 25%
- Q1 FY14: 25%
- Q2 FY14: 25%
- Q3 FY14: 27%
- Q4 FY14: 27%
- Q1 FY15: 29%
- Q2 FY15: 29%

Percent Selling PYTD
- CENTRAL: 99%
- NORTHWEST: 99%
- WEST: 99%
- NORTHEAST: 97%
- SOUTHWEST: 96%
- MIDWEST: 90%
- SOUTHEAST: 87%
- MID-ATLANTIC: 72%

Percent Selling by Quarter
- Goal: 25%
- Q1 FY14: 25%
- Q2 FY14: 25%
- Q3 FY14: 27%
- Q4 FY14: 25%
- Q1 FY15: 29%
- Q2 FY15: 29%
Some Final Thoughts...

• Mock up in Excel first
• Design for the long-run
• Fight the temptation to use flashy graphs
• Constantly edit down to the basics
• Mix Qualitative and Quantitative for maximum impact
R.I.P. Funnel Chart
Questions?