Beyond the Spreadsheet: Leveraging the Power of Data Visualization

Presented by:
Robert Ayala
Overview

• My Background

• The Finance Cycle

• The Evolution

• Finance Can & Should Lead the Way

• Implementation Strategies
Finance Sr. Consultant

Organization: Financial Planning & Analysis team responsible for consolidation of $8.5B business

Responsibilities:

- Centralized and standardized variance processes and reporting
- Executive-level weekly performance dashboard
- Support of Market-Facing and Operational Leadership
- Advisor to end-state systems design and financial system structure
The Finance Cycle

The cycle is fairly predictable...

Finance Professionals need to be able to:
- Access multiple data sets
- Use advanced methodologies
  - Data Mining
  - Advanced Analysis
  - What if scenarios
- **Data Visualization**
- Publish/share results with key Decision Makers

...and it is reiterative.
Life is too Complex for Excel

Infrastructure of Finance

Collect Data
Clean
Transform
Integrate
Store Data
Report
Explore
Analyze
Communicate
Monitor
Predict

Activities of Finance
Good News: We are Evolving

- Access
- Visuals
- Analytics
The Democratization of the Tools

- No I/T Involvement
- No Coding
- Training is Minimal
- Auto-Suggest
- Low Cost of Entry

“Pay no attention to the man behind the curtain.”
- The Wizard of Oz
More than a Map

Geo Plotting of Revenue (size of bubble) by Margin (color) at a city level

About Tableau maps: www.tableausoftware.com/mapdata
The Medium is the Message

Source: Principles of Educational Multimedia Design; Najjar, LJ (via Brain Rules by John Median)
Vision Trumps All Senses

We excel at recognizing patterns

Visuals allow us to overcome cognitive biases

Accelerates insight into the:

- Knowns
- Known Unknowns
- Unknown Unknowns

Visualization Value Proposition
Visualization is a Universal Language

Finance Knowledge Workers are Everywhere

Data Visualizations can improve & accelerate communication across global finance organizations
Key Elements of Visualization

- **Hue**
- **Saturation**
- **Direction/Angle**
- **Size**
- **Shape**
- **Density / Position**
Finding the Breaking Point

Histogram with # of Orders broken into Discount Bands with Margin % on the color shelf
The Median is not the Message

Measures of Centrality Can be Misleading & Do Little to Reveal the Risk & Opportunity in the Details

Average Rev Per Visit: $164.30
Average Margin: 21%

Plotted on a Scattergram
Broken Out by Country
Using Size to Weight the Revenue
Using Color to Highlight Developing Markets
Using Motion to Reflect Time
Finance Can & Should Lead the Way

- Highest Ratio of Knowledge Workers
- Strength in Financial & Analytical Concepts
- Understanding of Governance & Controls
Beyond the Bar Chart

Dual Axis Bar chart with Aggregate sales pipeline by Qtr in Blue & disaggregated Revenue per Opportunity in orange to isolate outliers (ex: high performing units)
Implementation Strategies

• Identify a champion
• Secure executive sponsorship
• Localize for the SMEs at critical business intersections
• Engage high-potential talent in areas of higher risk (journal entries, payables, receivables & forecast variance…)
• Target rapid prototype development
• Create a compelling campaign
The Story of the Eagle
Talons: Data Management

- Data Management is the foundation of success & involves:
  - Access
  - Transform
  - Govern

- Good Data Management skills will allow us to handle
  - the increasing data diversity (width),
  - increasing data detail (depth),
  - the need to get results faster (velocity)
Beak: Analytical Capability

- The primary goal of the analysis step is to evaluate the data that has been collected to determine what can be learned from it.

- Analysis can take place by:
  - Monitoring historical performance via metrics or key performance indicators
  - Modeling scenarios to predict future events
  - Identifying behaviors, patterns or trends that can be influenced to:
    - Produce favorable results
    - Minimize risk
    - Identify opportunities
Feathers: Visualization

• Reasons visualization is important:
  – More accessible
  – Easier to understand
  – With increasing data size, it is the only way to represent large data sets

• Visualization can take the form of:
  – Bar / Line Charts
  – Pie Charts
  – Histograms
  – Scatterplots
  – Geographic Representation
  – Box Plots
Measurable Results

Finance & Accounting teams were spending 70% of their time collecting data & only 30% of their time analyzing the data.

Our company flipped those ratios.
Thank You

Contact: robert.ayala@tcs.com