

# Visual Dashboards for Self-Service BI

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# Speakers



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## Visual Dashboards for Self-Service BI

August 2014

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# Outline

- Industry trends
- Benefits of self-service BI & visual data discovery
- Relationship with dashboards
- Key solutions on the market
- Features and differentiators
- Recommendations

# Business Users Are Excited About BI



*Visual Data Discovery Drivers*

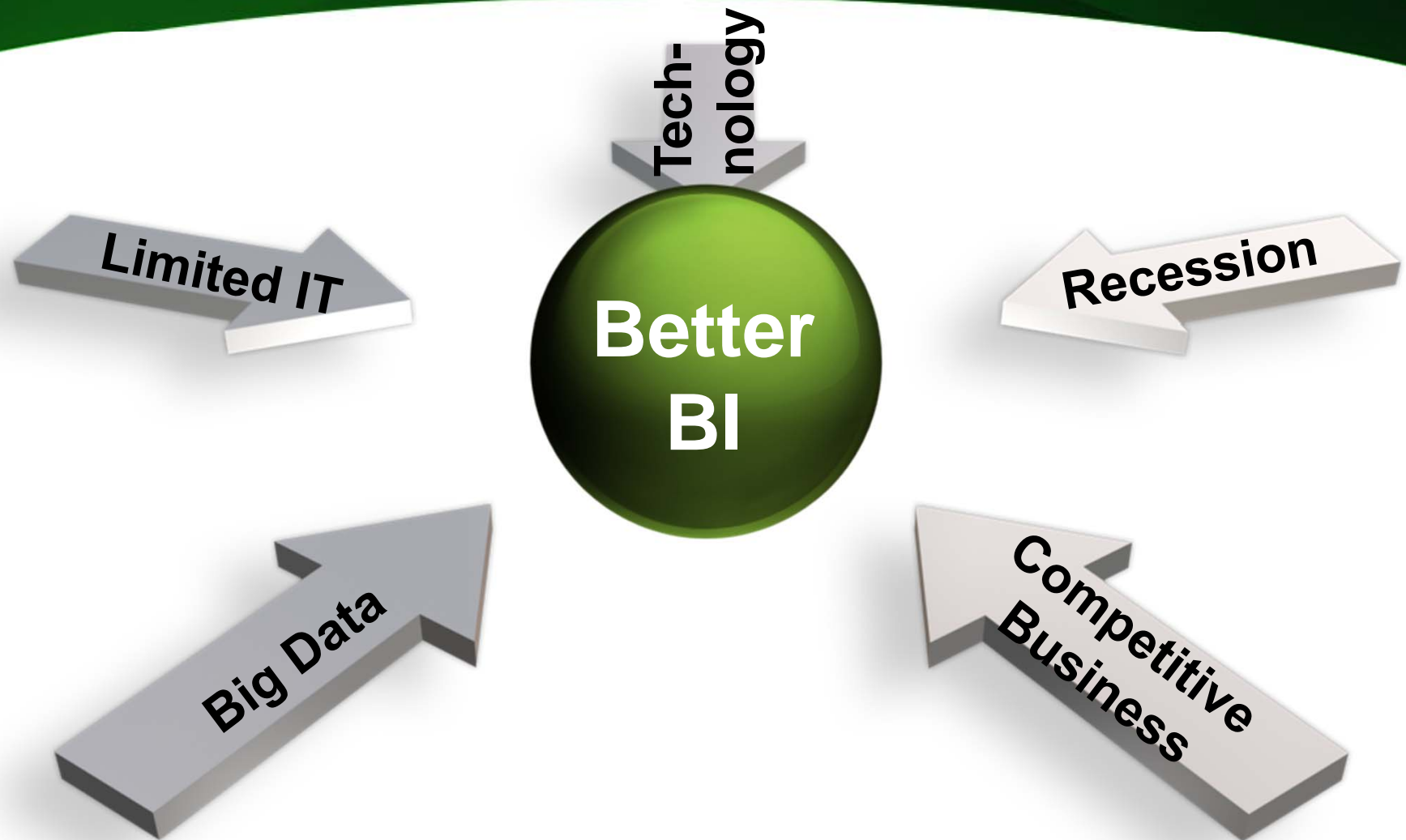
**Visual  
Appeal**

**Ease of  
Use**

**Agility**

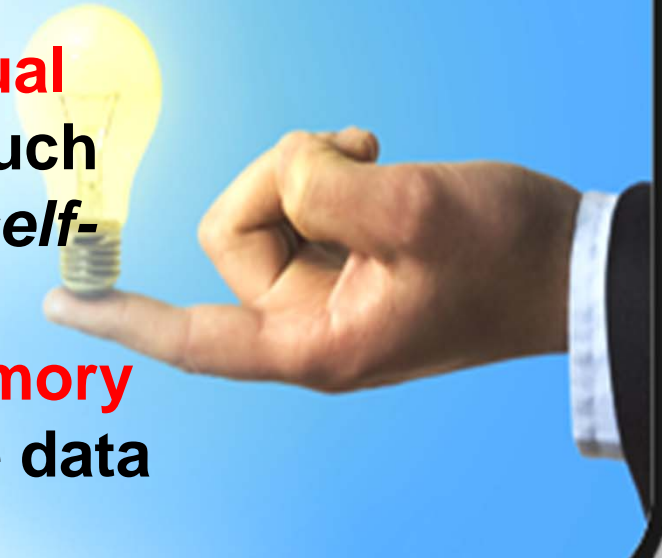
**Collab-  
oration**

# Visual Data Discovery Opportunity



# Visual Data Discovery Defined

Visual Data Discovery tools speed the *time to insight* through the use of visualizations, best practices in **visual perception**, and easy exploration. Such tools support *business agility* and *self-service BI* through a variety of innovations that may include **in-memory** processing and mashing of multiple data sources.





# The Vision for Self Service BI

- Business users are empowered to get to all data necessary to make decisions at the speed of business
- IT eliminates report back log and focuses on only data storage, performance optimization, or complicated requests



# Visual Speeds Insight



- **More data means more criteria, greater desire for perfect decision slows decision-making**
- **Higher amounts of stress hormone cortisol contributes to memory loss ... and other problems**
- **When information presented graphically, 20% less cognitive resources used**
- **When fun, brain's reward system lights up and learning improves**

# Visualization vs. Visual Data Discovery

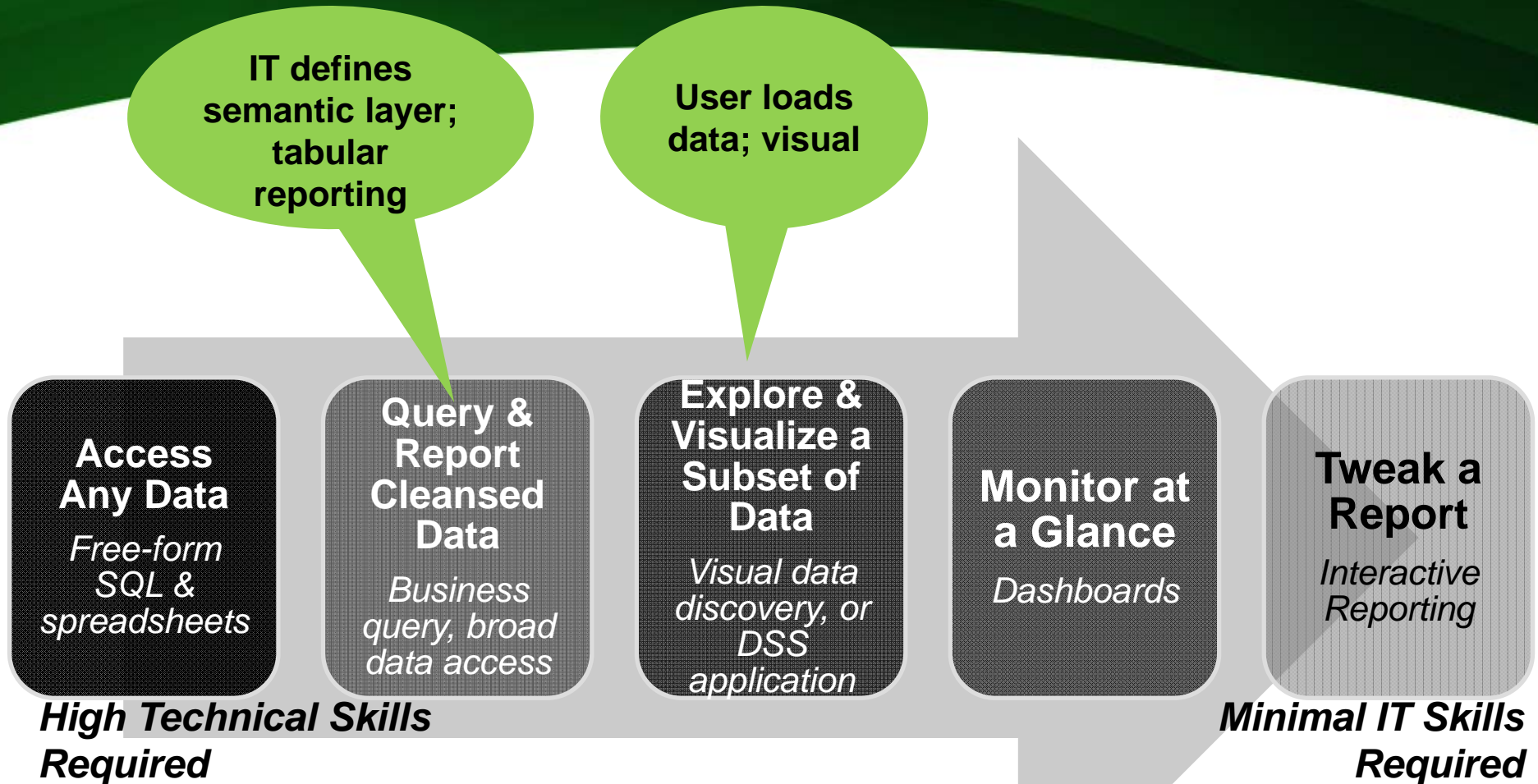
## BI Platforms & Dashboards

- Common charts types
  - Bar, line, pie
- Sometimes additional chart types such as maps, gauge
- Query, get tabular result, then visualize
- Data often from DW or OLAP cube - modeled
- Interactivity not guaranteed

## Visual Data **Discovery**

- Less common chart types
  - Small multiples, waterfall, network, heat or tree map, spark line, tag cloud
- Single-step query and visualize
- Highly interactive
- Data mashed from DW, marts, spreadsheets
  - Not modeled
- Ability to manipulate data
  - Calculations, bins, groups
- Best practices in visualization
  - No pies, smart use of color
- May be “personal” analytic tool

# Self-Service BI Continuum



# Dashboard Definition

*“A dashboard is a visual display of the most important information ... on a single screen so the information can be monitored at a glance.”*

—Stephen Few, visualization expert

- Multiple data sources
- Multiple visual indicators
- **Interactive**
- **Integrated**
- **Smart visualizations**
- **Actionable**



# Types of Dashboards

## Operational Dashboards

- Real-time, granular data
- IT designs
- Alerting **critical**

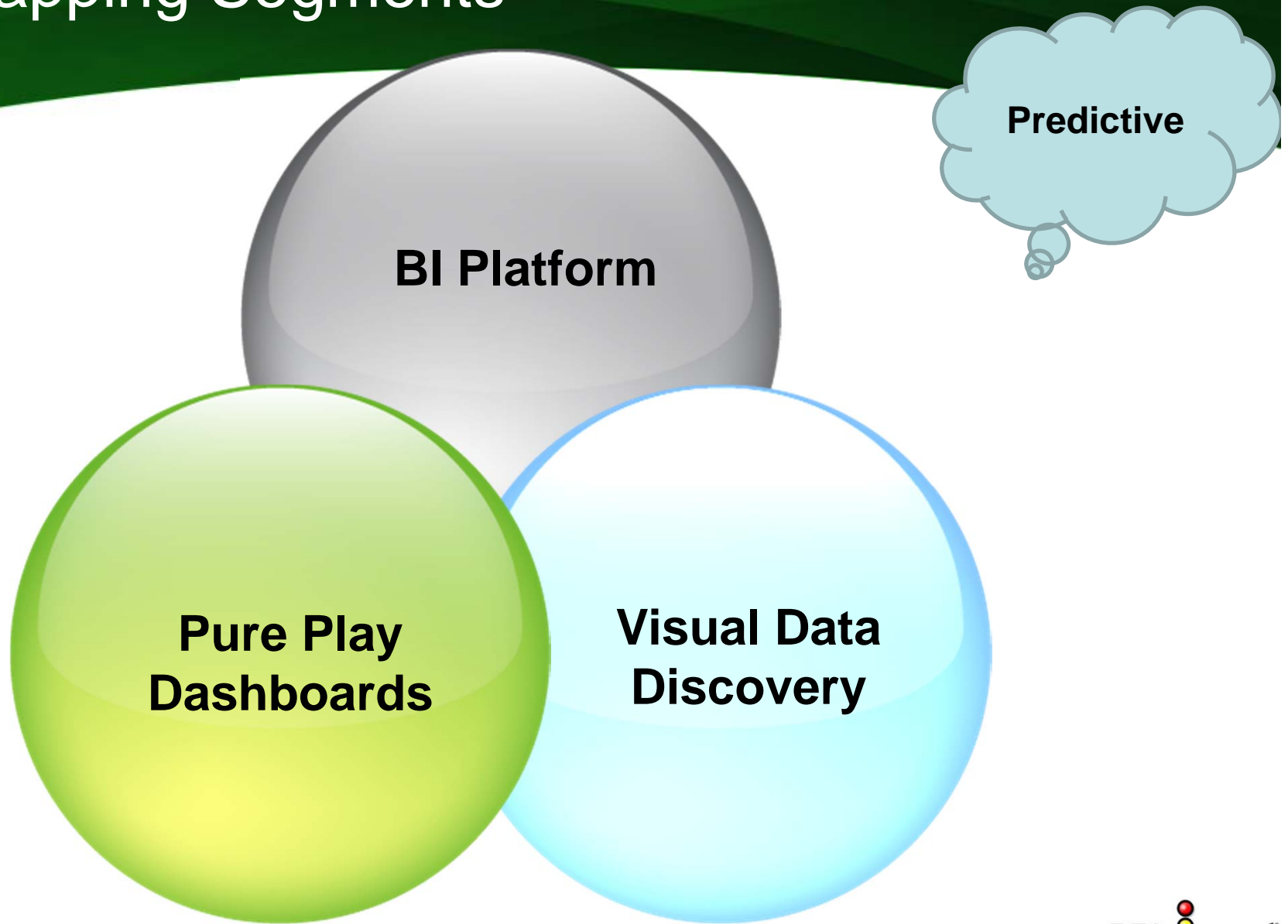


## Management Dashboards

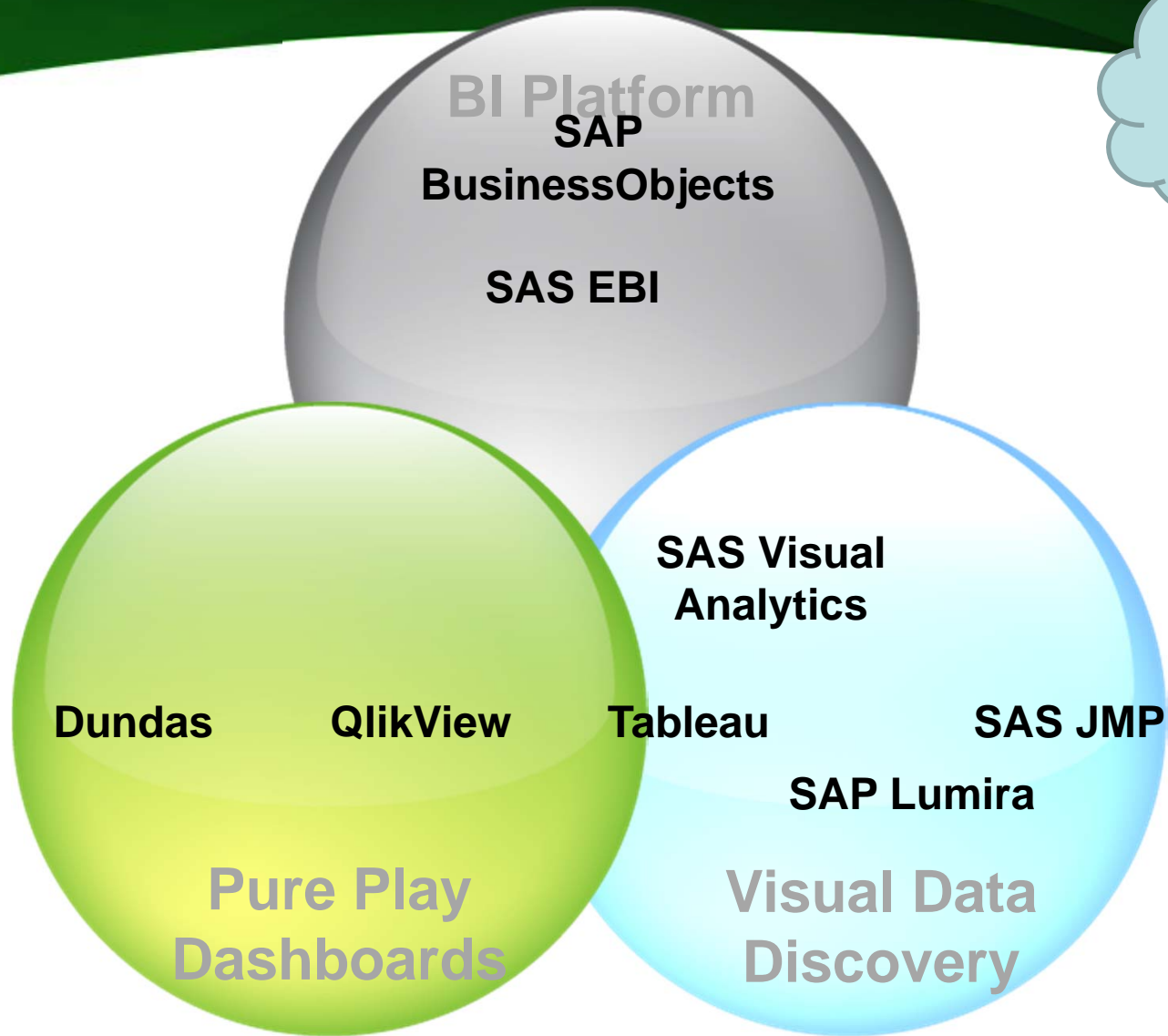
- Summary data
- Users may design/assemble
- Alerting optional



# Overlapping Segments



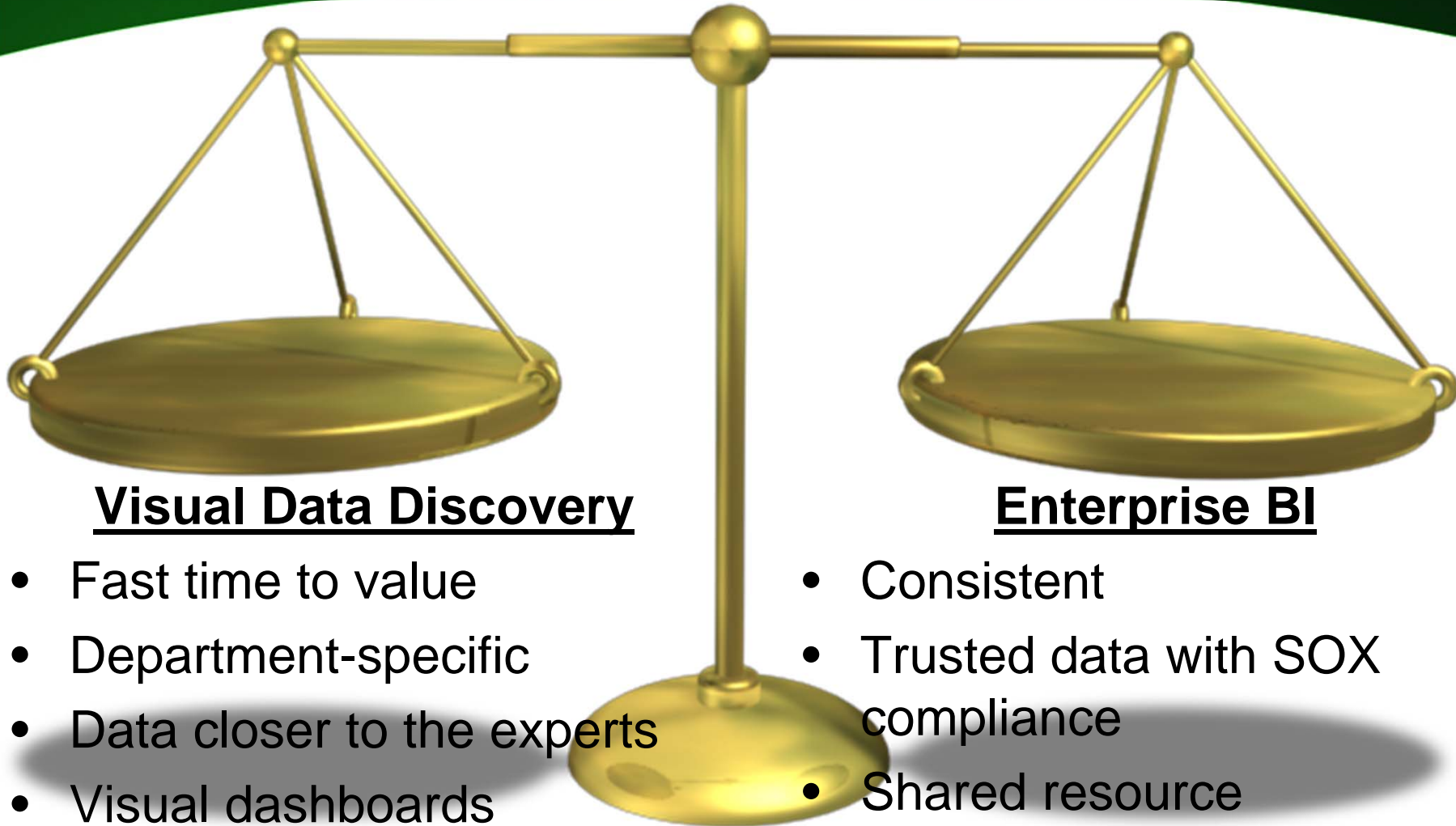
# Overlapping Segments



Predictive



# Balance Agility and Control



## Visual Data Discovery

- Fast time to value
- Department-specific
- Data closer to the experts
- Visual dashboards

## Enterprise BI

- Consistent
- Trusted data with SOX compliance
- Shared resource
- Historically report-centric

# BI Platform Dashboards

- SAS Visual Analytics Designer
- SAP BusinessObjects
  - Xcelsius, in v4 renamed Dashboards
  - Design Studio replaces Web Application Designer for BW and Hana
- IBM Cognos Workspace
- Oracle Interactive Dashboards
- Microsoft:
  - Dashboard Designer in SharePoint Performance Point
  - Excel-based dashboards with PowerPivot and PowerView
- MicroStrategy Enterprise Dashboards designed in Report Services
- Information Builders Portal

# Pure Play Dashboard Vendors & Products

- QlikView
  - In-memory, associate search, rapid deployment
- JackBe
  - Multiple data sources, real-time, operational dashboards
- Antivia
  - Integrates with SAP BusinessObjects Dashboards and other data sources
- Dundas Dashboard
  - Historically Microsoft focus, extensible and embeddable
- iDashboards
- OLAP Viewers
  - Panorama, arcplan, Strategy Companion

# Visual Data Discovery Tools

- **Specialty**
  - Tableau Software
  - TIBCO Spotfire
  - QlikView (dashboard that supports discovery)
  - Datawatch
- **From BI platform vendors**
  - SAS JMP & Visual Analytics Explorer (Q1 2012)
  - MicroStrategy Visual Insight (Q3 2011)
  - Microsoft Power View (Q1 2012)
  - Cognos Visual Insight (Q1 2012) and Watson Analytics
  - SAP BusinessObjects Explorer (2009) & Lumira (Q2 2012)
  - Oracle Endeca Information Discovery (acq. Q4 2011)
  - LogiVision (Q1 2014)

# Key Considerations in Evaluating Dashboards and Visual Discovery Tools

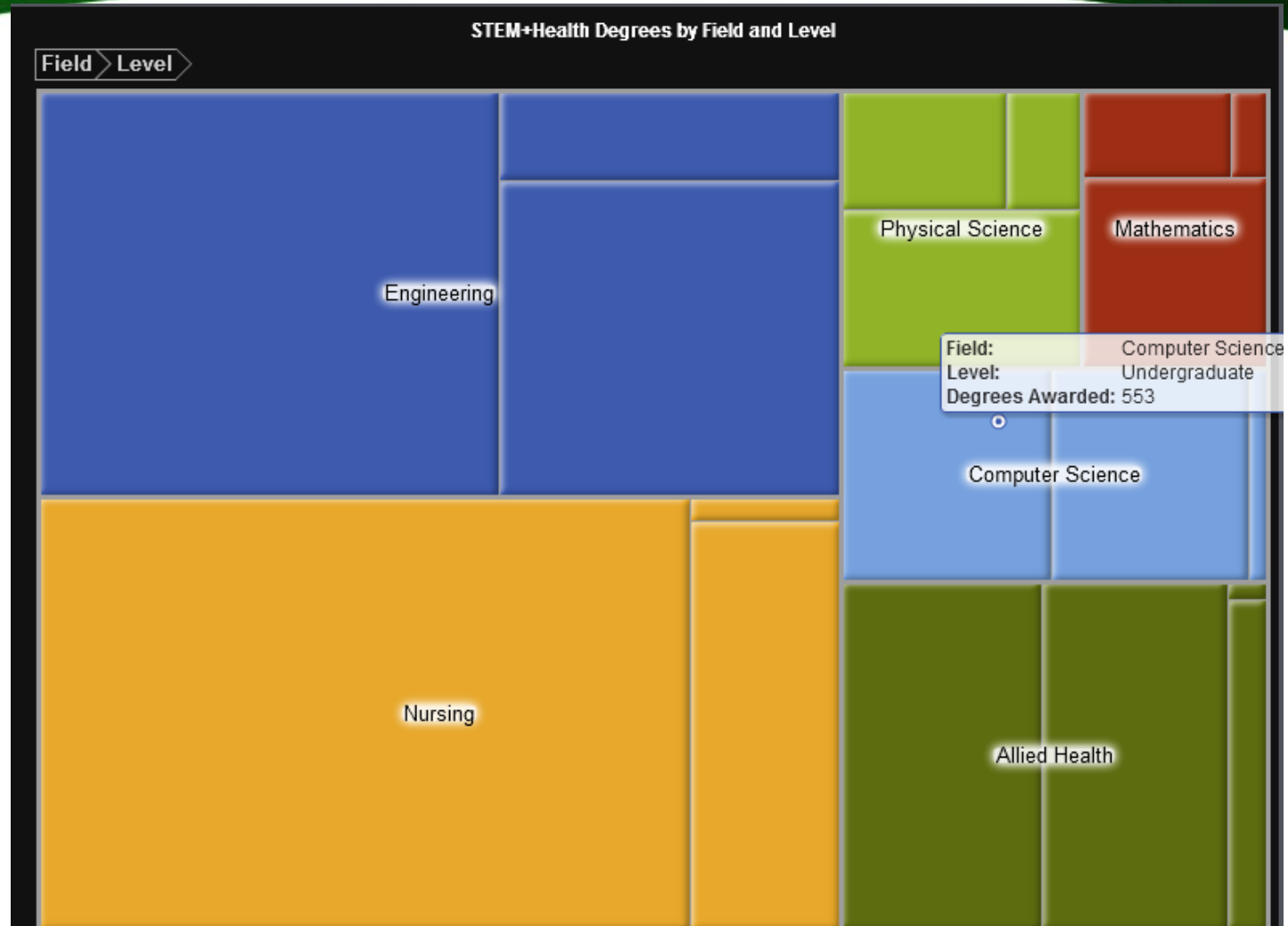
- Strategic
  - Vendor finances, account management, technical support, pricing, breadth of capabilities
- Functional
  - Presentation and layout
  - Interactivity and exploration
  - Design and analysis
  - Delivery – web, mobile, PowerPoint
  - Architecture
  - Administrative

# Layout and Presentation

- Visual appeal
- Multiple objects
- Multiple panels, layers, or tabs
- Chart types
  - Maps, trellis, spark lines, bullet graphs, heat and tree maps, bubble chart, network, tag cloud
- Content types
  - KPIs, RSS Feeds, images and video

# Treemap – Grouped

*Grouped or not?*

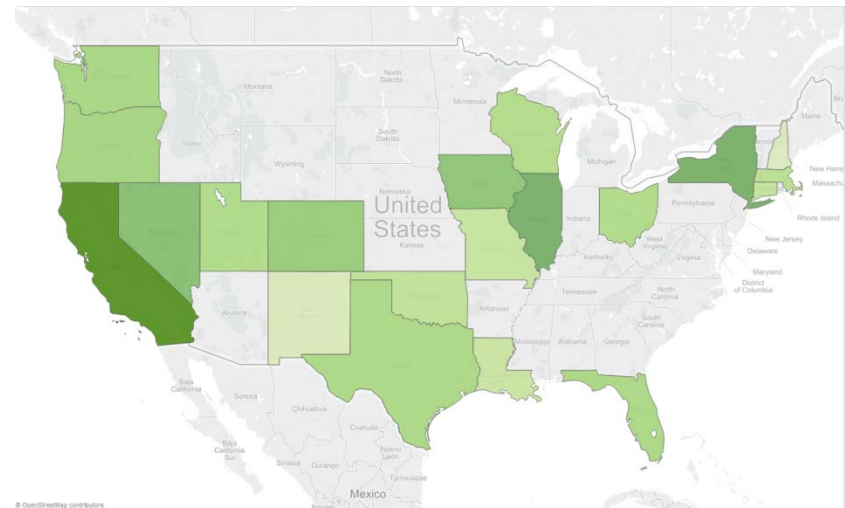


Source: University of Texas, <http://exploredata.utsystem.edu>

# Geographic Mapping

Tableau OpenStreet

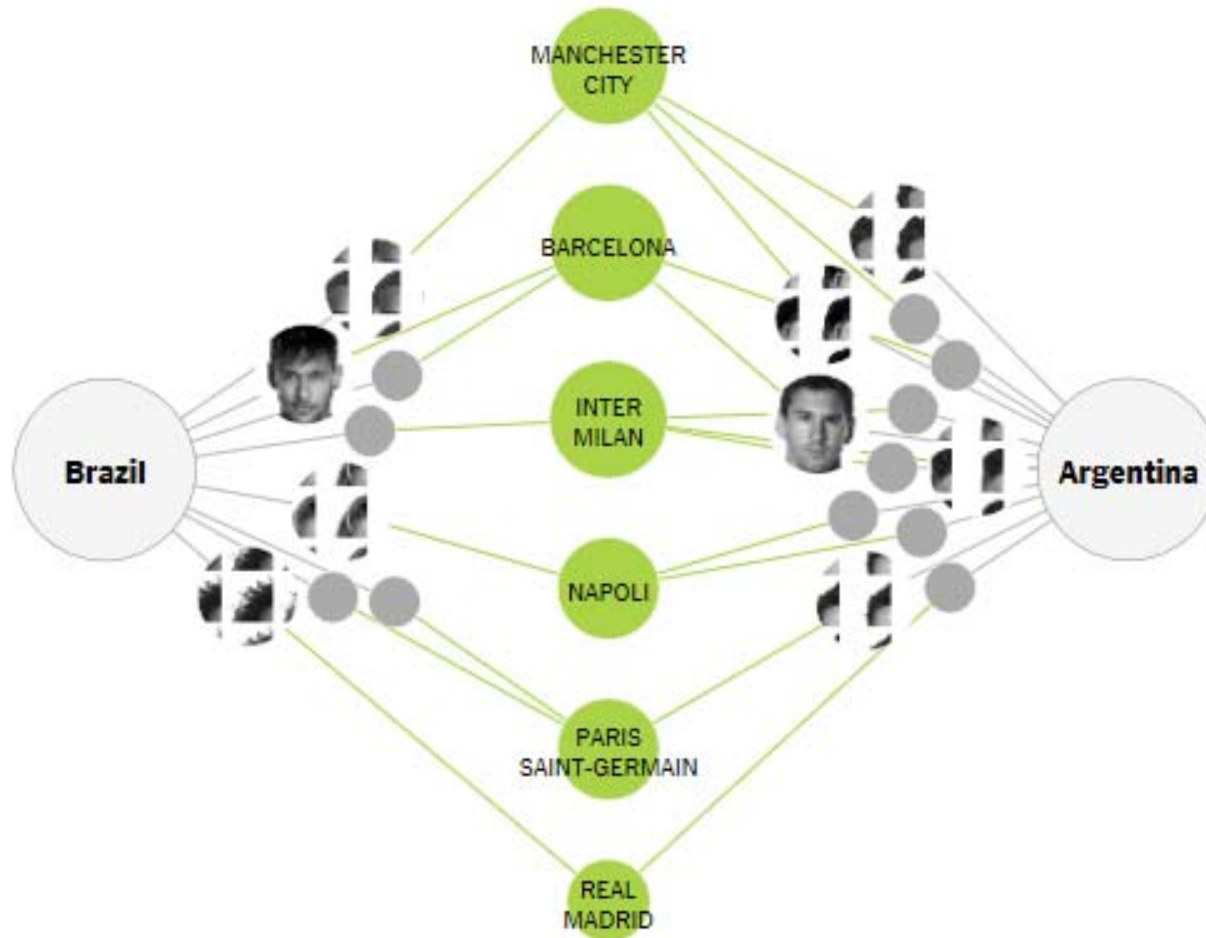
- Whose maps
  - OpenStreet, ESRI, Bing, own
- Filled or point
- Geocode database
- Down to what level





# Network Graph

New York Times

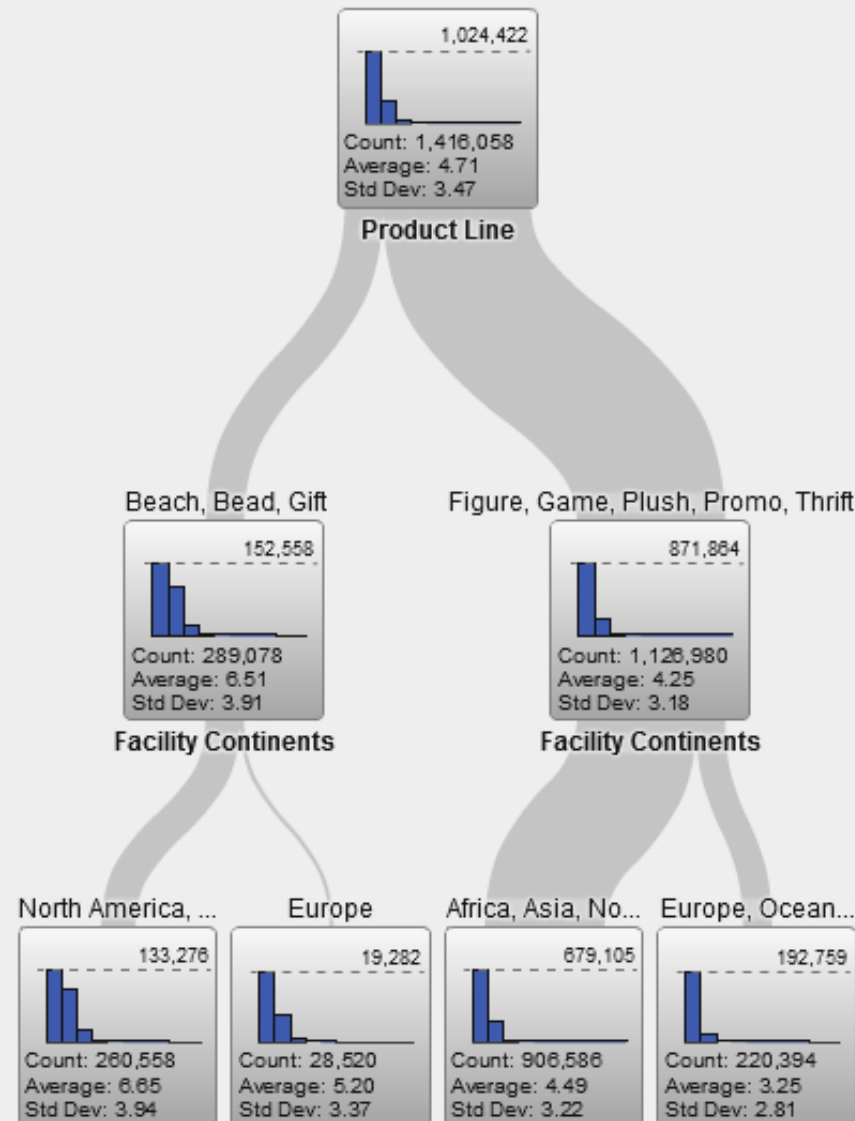


Source: New York Times, *The Clubs That Connect the World Cup*

# Decision Tree

## SAS Visual Analytics

Decision Tree of Order Distribution Cost



# Consumption: Interactivity & Visual Exploration

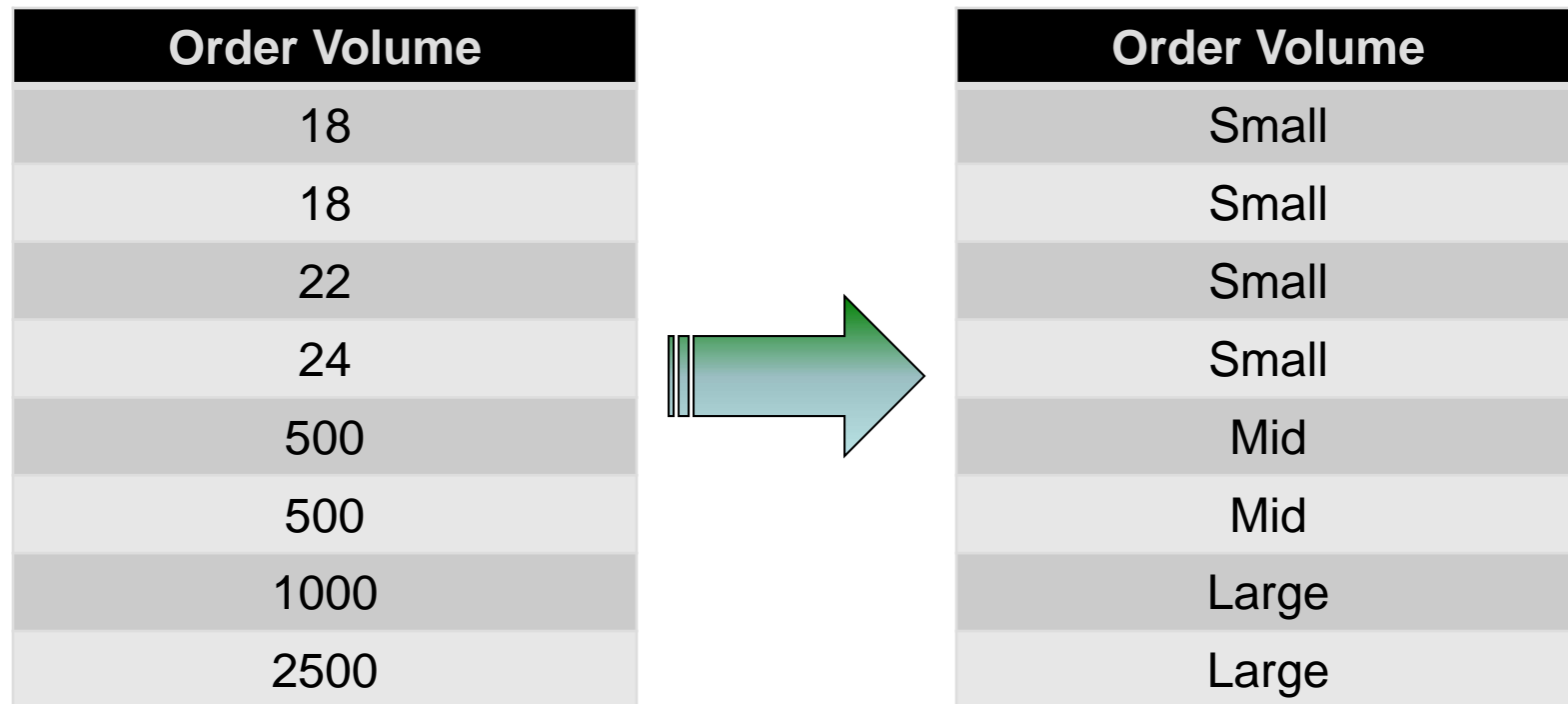
- Expand/zoom individual object
  - Filters – global and individual
  - Sort
  - Lasso
  - Drill down or pivot
  - Animation (Flash, SilverLight, AJAX, HTML5)
  - View detailed data
- What-if analysis
  - Change display type (table to chart)
  - Collaborate and Annotate
  - Global search or Find

# Analysis

- Data transformations
  - Rename, parse, replace
- Bins
- Groups
- Percentages
- Rank
- Segmentation
- Time period comparisons
- Calculations
- Forecasting
- Set analysis

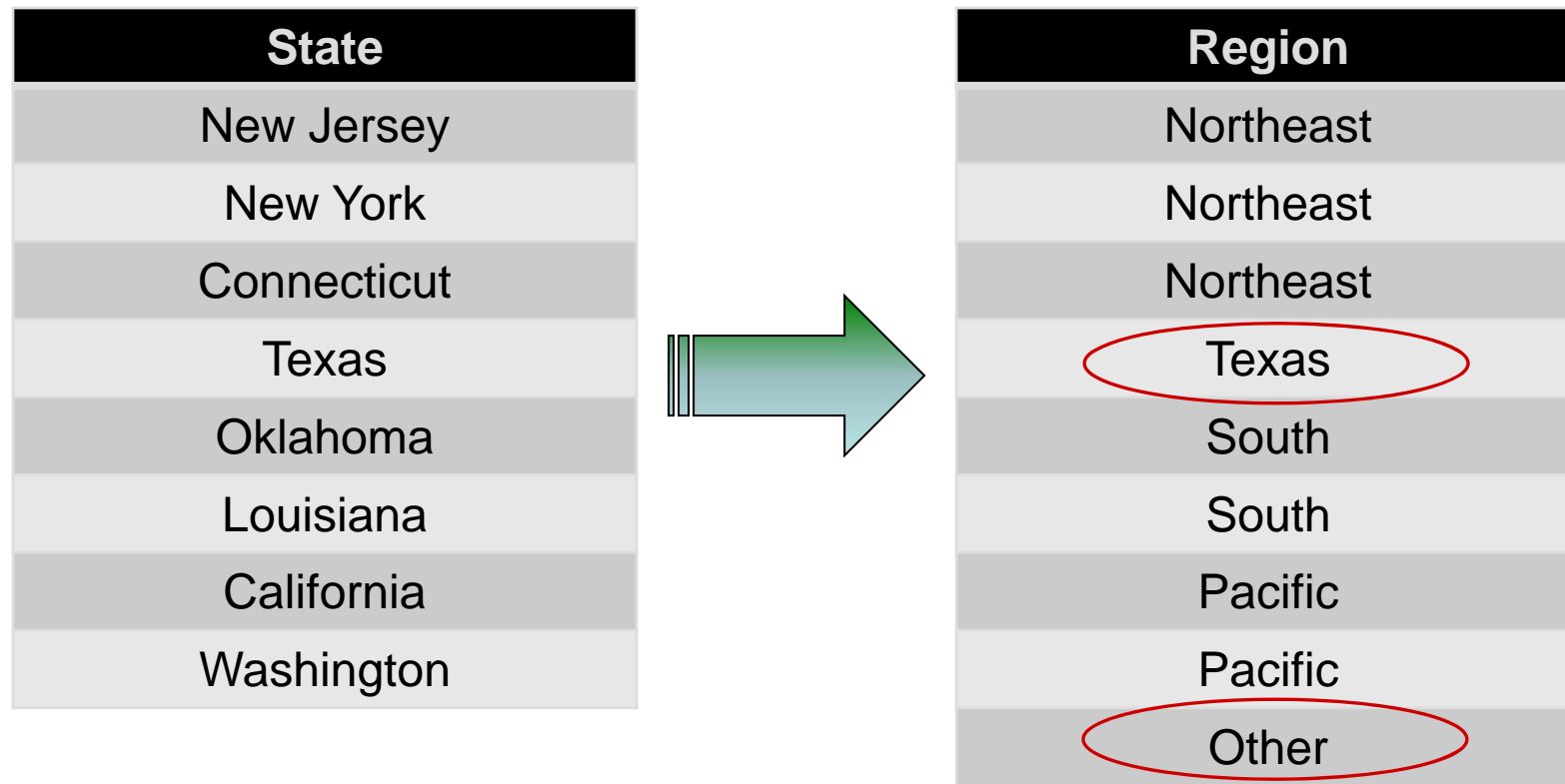


# Bins



**Software can propose the bins or user defines**

# Groupings



**Creating long if-then-else statement is a work around; consider GUI to create**

# Dashboard Design

- Desktop or Web authoring
- Business user assembled or IT designed
- Re-usability of dashboard elements
- Ease to define interactions
- Undo, WYSIWYG, rulers, templates
- Data loading and modeling; multi source
  - User blending or admin only?
- Scripting and SDK

# SAS Visual Analytics Explorer

Home Exploration 1

File Edit Data Visualization Analysis View Help Log Off

**Data**

Insight Toy Company

- Customer 5,000+
- Facility 127
- Facility City 125
- Facility Continent 6
- Facility Country 32
- Facility Opening Date 19
- Facility Region 95
- Order 5,000+
- Product 5,000+
- Product Brand 2
- Product Line 8
- Product Make 71
- Product Style 335
- Sales Rep 1,909
- Transaction Date 3,912
- Transaction Month 180
- Transaction Weekday 5
- Transaction Year 15
- Unit 166
- Unit Status 1
- Customer Distance
- Customer Satisfaction
- Facility Age

**Visualization 1**

Drop a data item here

**Roles Filters Properties Com**

Categories

Category

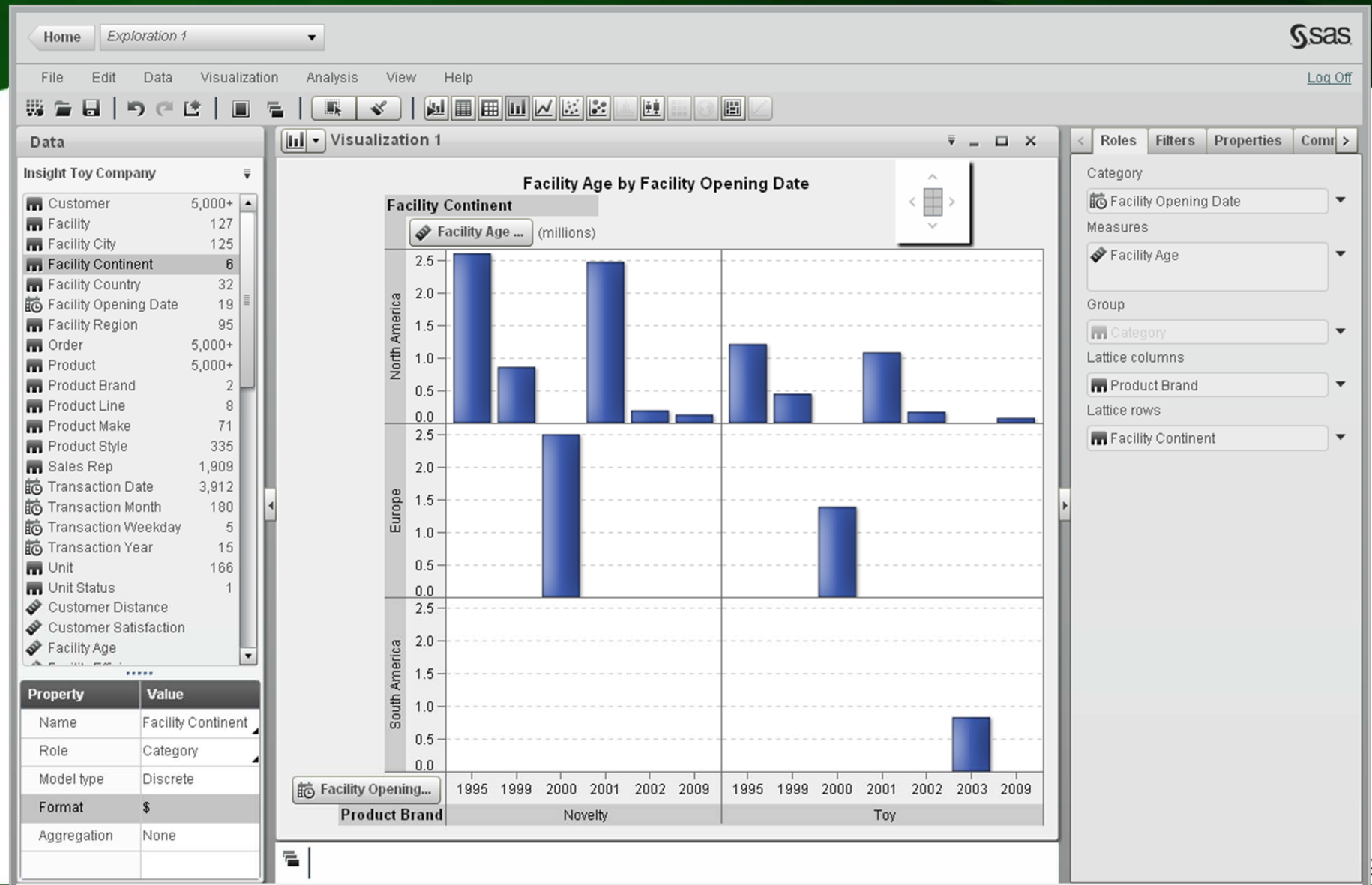
Measures

Measure

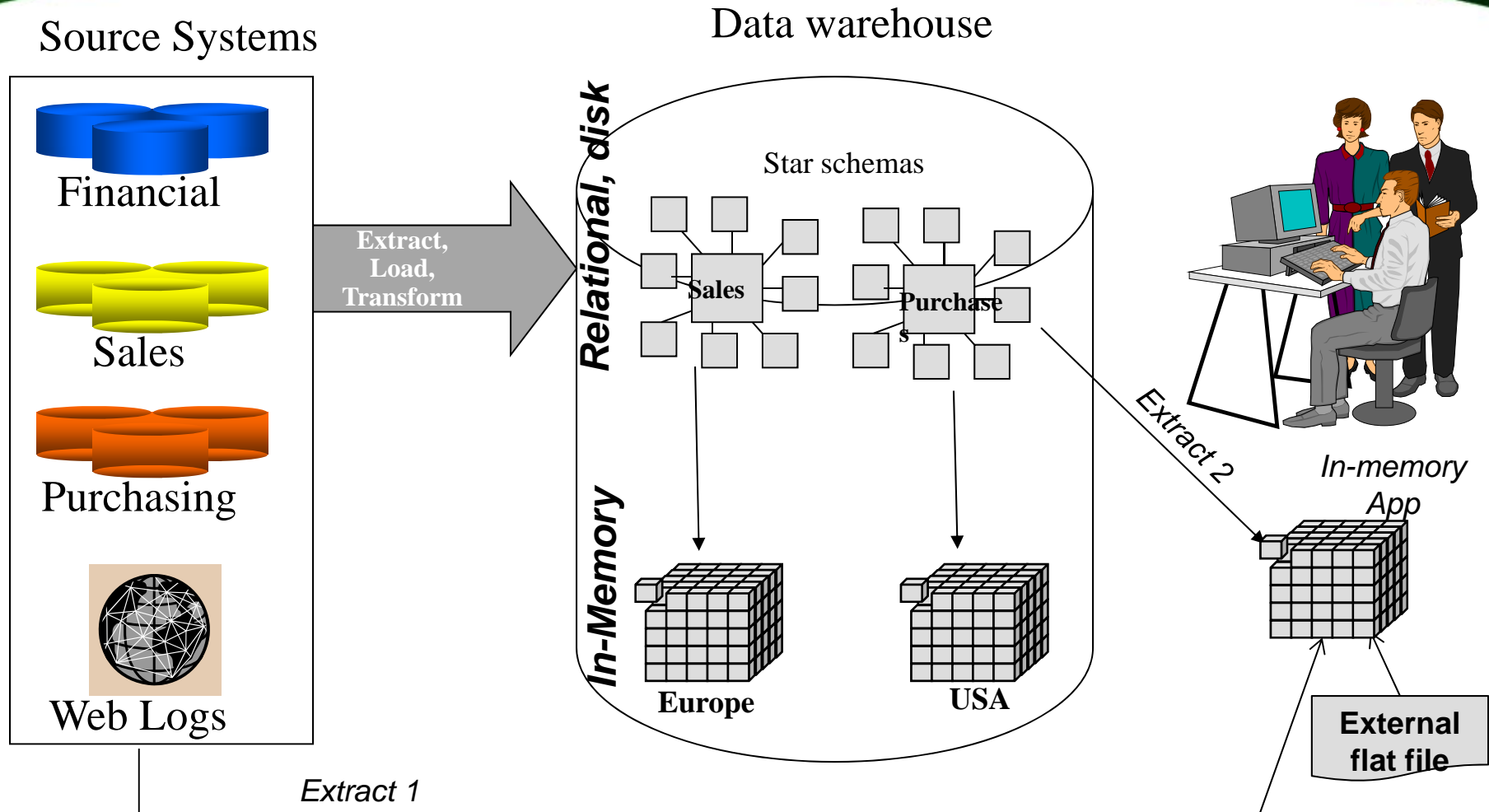
Property	Value
Name	
Role	
Model type	
Format	
Aggregation	
Expression	



# SAS Visual Analytics Explorer – Trellis Chart



# In-memory : DW Accelerate or Datamart? Appliance or software only?



# Recommendations for Visual Discovery & Self-Service



- ✓ Make self-service BI part of your mantra
- ✓ Business agility is key for BI success
- ✓ Evolve your BI tool portfolio to include dashboards, visual data discovery, mobile
- ✓ Empower business units
- ✓ Focus on business value not the tool

# VISUAL DASHBOARDS FOR SELF-SERVICE BI

JUSTIN CHOY, BI PRODUCT MANAGEMENT, SAS

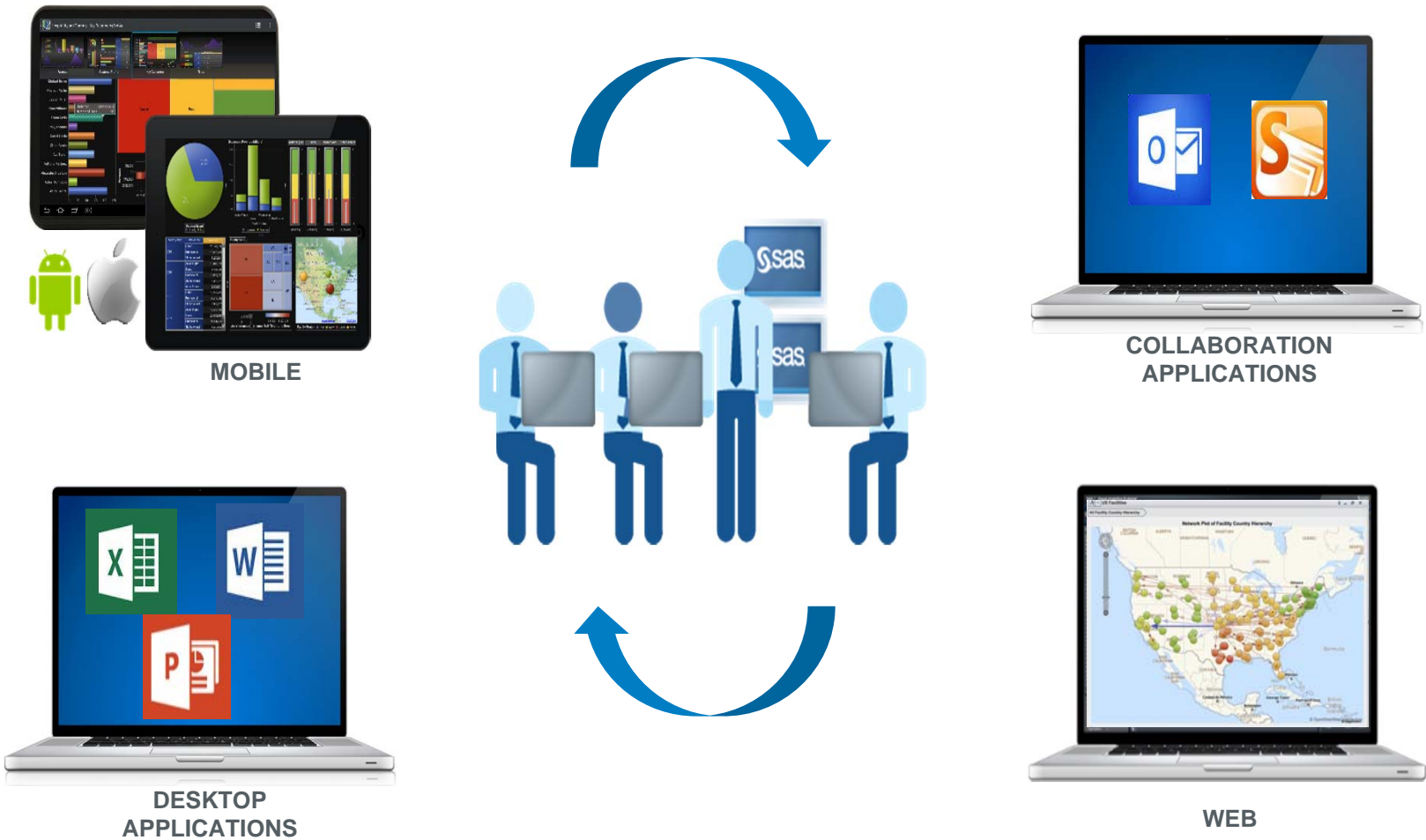




## BUSINESS VISUALIZATION DRIVEN BY ANALYTICS



# COLLABORATION AND INFORMATION SHARING



VISUALIZATIONS    REPORTS    DASHBOARDS    COMMENTS    INSIGHTS

# SAS<sup>®</sup> VISUAL ANALYTICS

## PRODUCT DEMONSTRATION



# Questions?





# Contact Information

If you have further questions or comments:

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