Data Visualization for Oracle BI 12c and Visual Analyzer

Tim Vlamis and Dan Vlamis

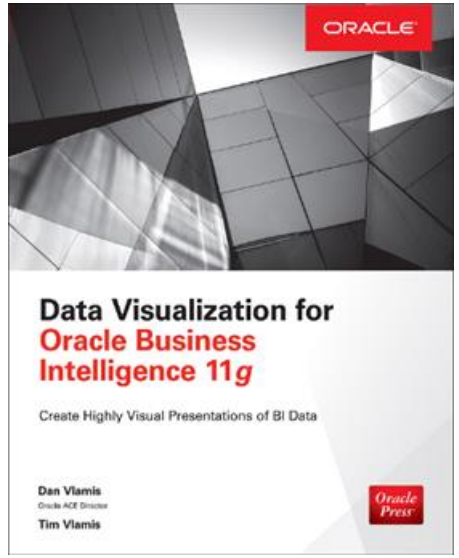
Wednesday, February 1, 2017

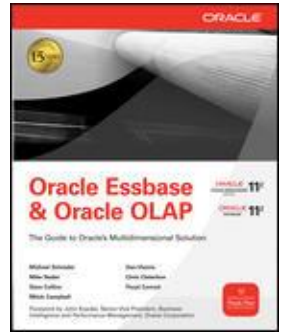
Agenda

- Understanding the foundations of data discovery
- Discovery scenarios
- Discovery frameworks
- Using Visual Analyzer to discover data insights

Vlamis Software Solutions

- Vlamis Software founded in 1992 in Kansas City, Missouri
- Developed 200+ Oracle BI and analytics systems
- Specializes in Oracle-based:
  - Enterprise Business Intelligence
  - Data Warehousing
  - Data Mining and Predictive Analytics
  - Data Visualization
- Multiple Oracle ACEs, consultants average 15+ years
- www.vlamis.com (blog, papers, newsletters, services)
- Co-authors of book “Data Visualization for OBI 11g”
- Co-author of book “Oracle Essbase & Oracle OLAP”
- Oracle University Partner
- Oracle Gold Partner





ORACLE EDUCATION RESELLER

ORACLE APPROVED EDUCATION CENTER

ORACLE Gold Partner
Specialized
Oracle Business Intelligence
Foundation Suite 11g

CELEBRATING EXCELLENCE vlamis 25 YEARS SOFTWARE SOLUTIONS

Dan Vlamis and Tim Vlamis

Dan Vlamis – President

- Founded Vlamis Software Solutions in 1992
- 30+ years in business intelligence, dimensional modeling
- Oracle ACE Director 

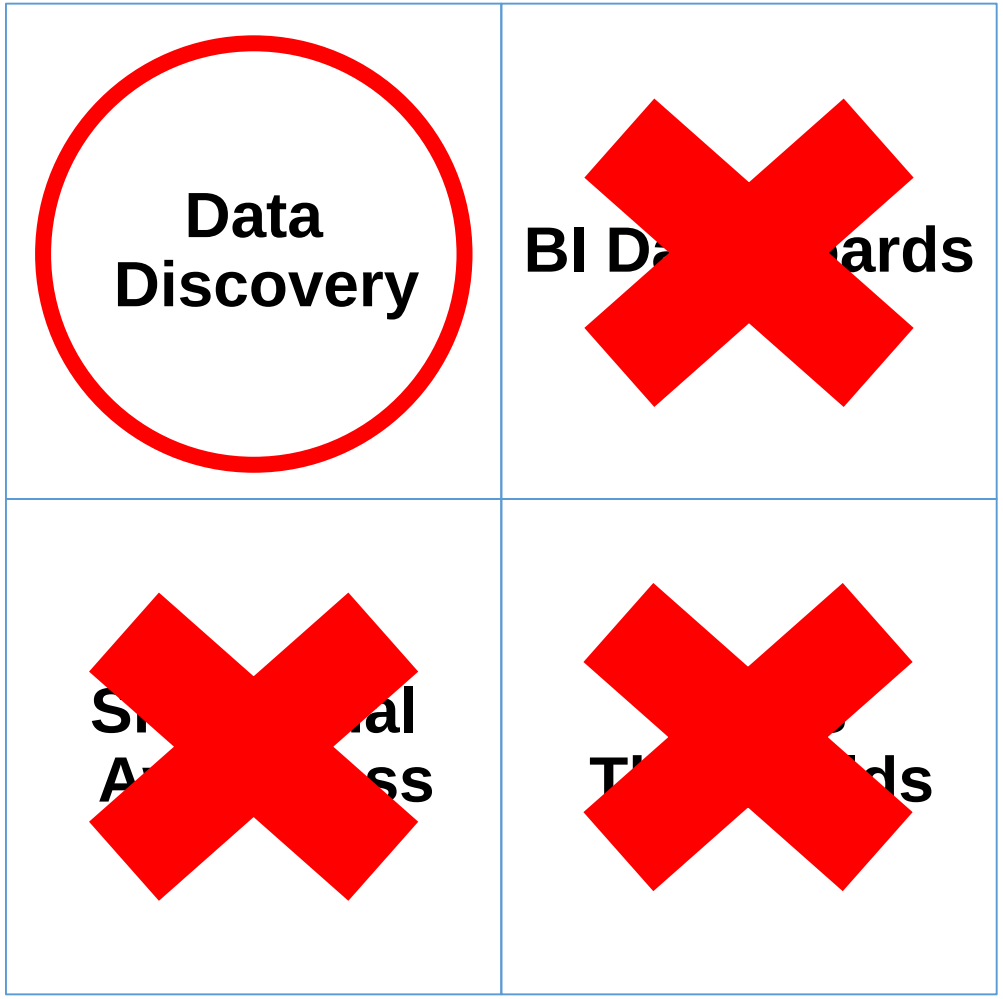
- Developer for IRI (expert in Oracle OLAP and related)
- BIWA Board Member since 2008
- BA Computer Science Brown University

Tim Vlamis – Vice President & Analytics Strategist

- 30+ years in business modeling and valuation, forecasting, and scenario analyses
- Oracle ACE 

- Instructor for Oracle University's Data Mining Techniques and Oracle R Enterprise Essentials Courses
- Professional Certified Marketer (PCM) from AMA
- MBA Kellogg School of Management (Northwestern University)
- BA Economics Yale University

Data Visualization Scenarios



Discovery - Explore vs Pioneer

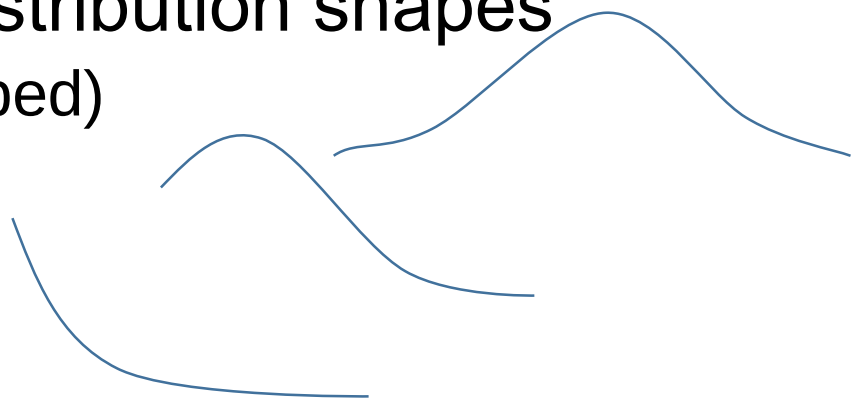
True Discovery

Data Discovery Sequence

- "Skim" the entire data set to get a sense of its size and scope
- "Read" the data set a **second** time more carefully
  - Identify facts/measures
  - Transaction/event records included?
  - Identify major dimensions
- Make a list of potentially important or interesting business issues/implications
- Compare your original business issues with your new list
- Apply useful frameworks
- Transform data and add new data
- Apply useful frameworks

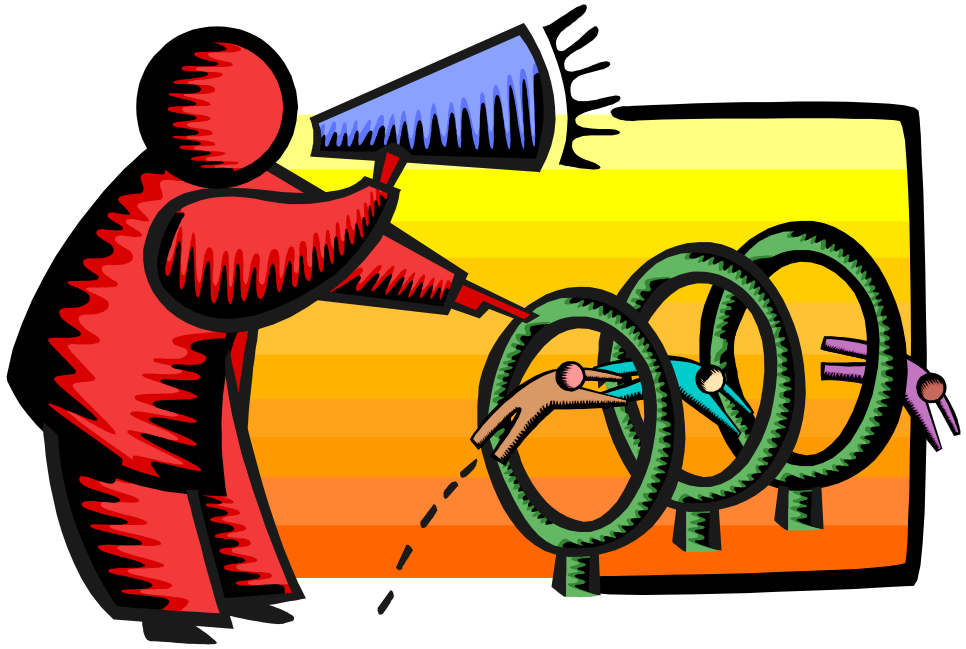
Understanding Measures for Exploration

- Aggregation method is important
- If use average, also add a bucketed measure
- Compute differences
- Understand data's natural distribution shapes
  - Normal distributions (bell shaped)
  - Log-normal distributions
  - Exponential distributions



- Average has strong meaning only for normal distributions
- Outlier identification & treatment are important for non-normal distributions

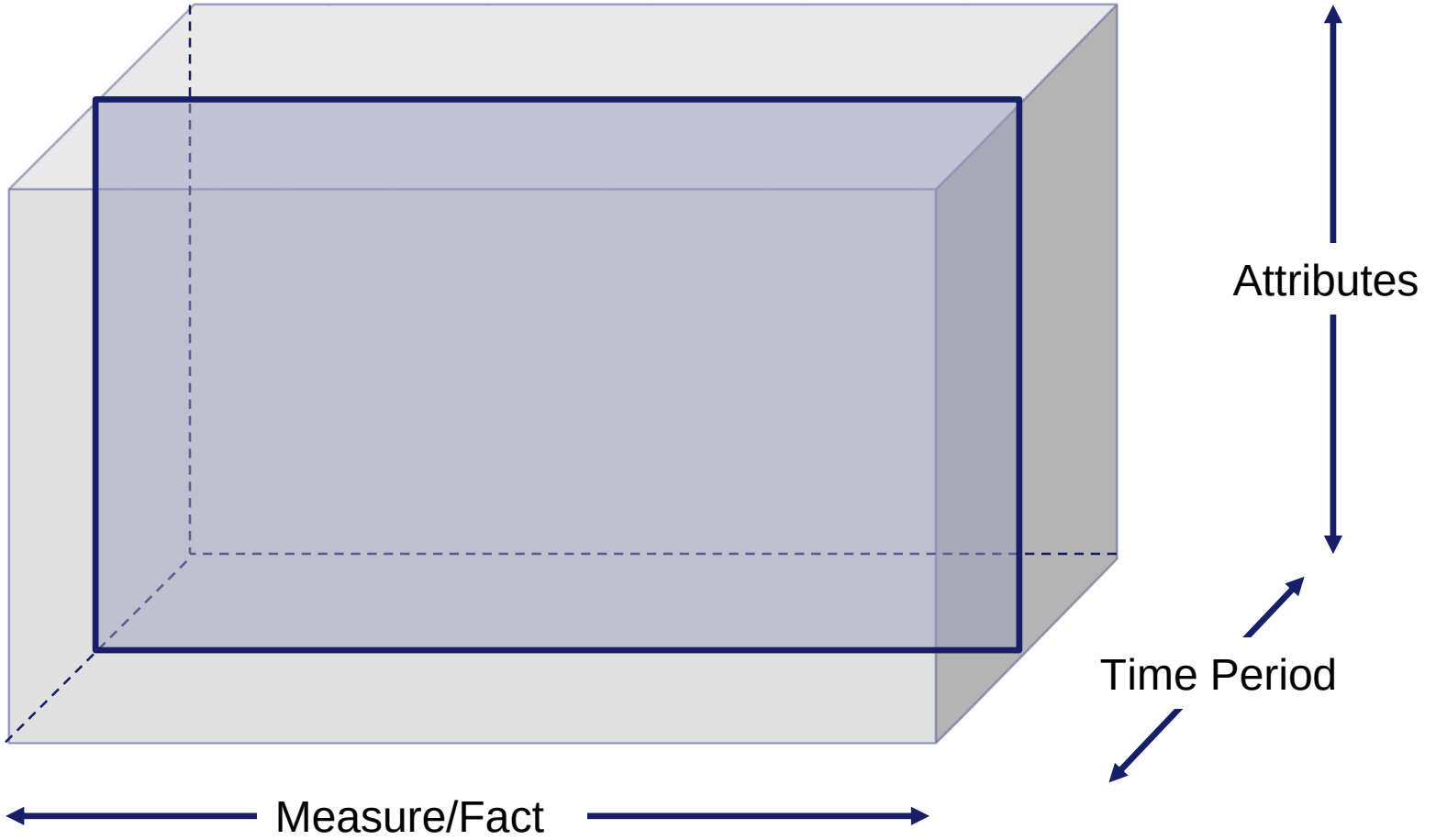
Demo



An Example Useful Framework

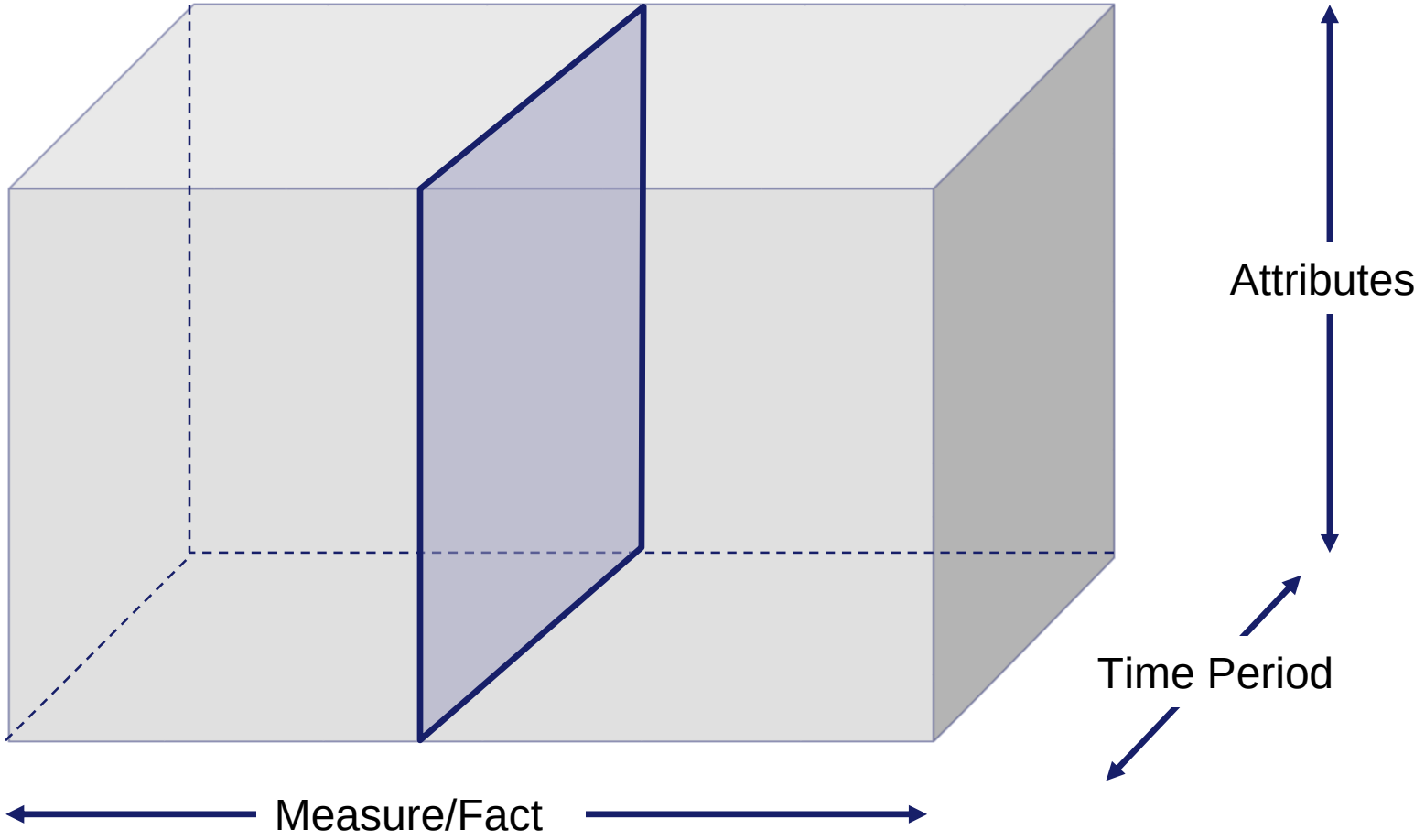
Position Analysis	Performance Analysis	Flow Analysis
static	period of time	period of time
descriptive	results	change in single asset/resource
relative/comparative	fixed vs. variable	sources and uses
balance sheet	P&L	cash flow
strength/weakness	bottom line/zero based	change over time
portrait	motion picture	narrative

Position Analysis



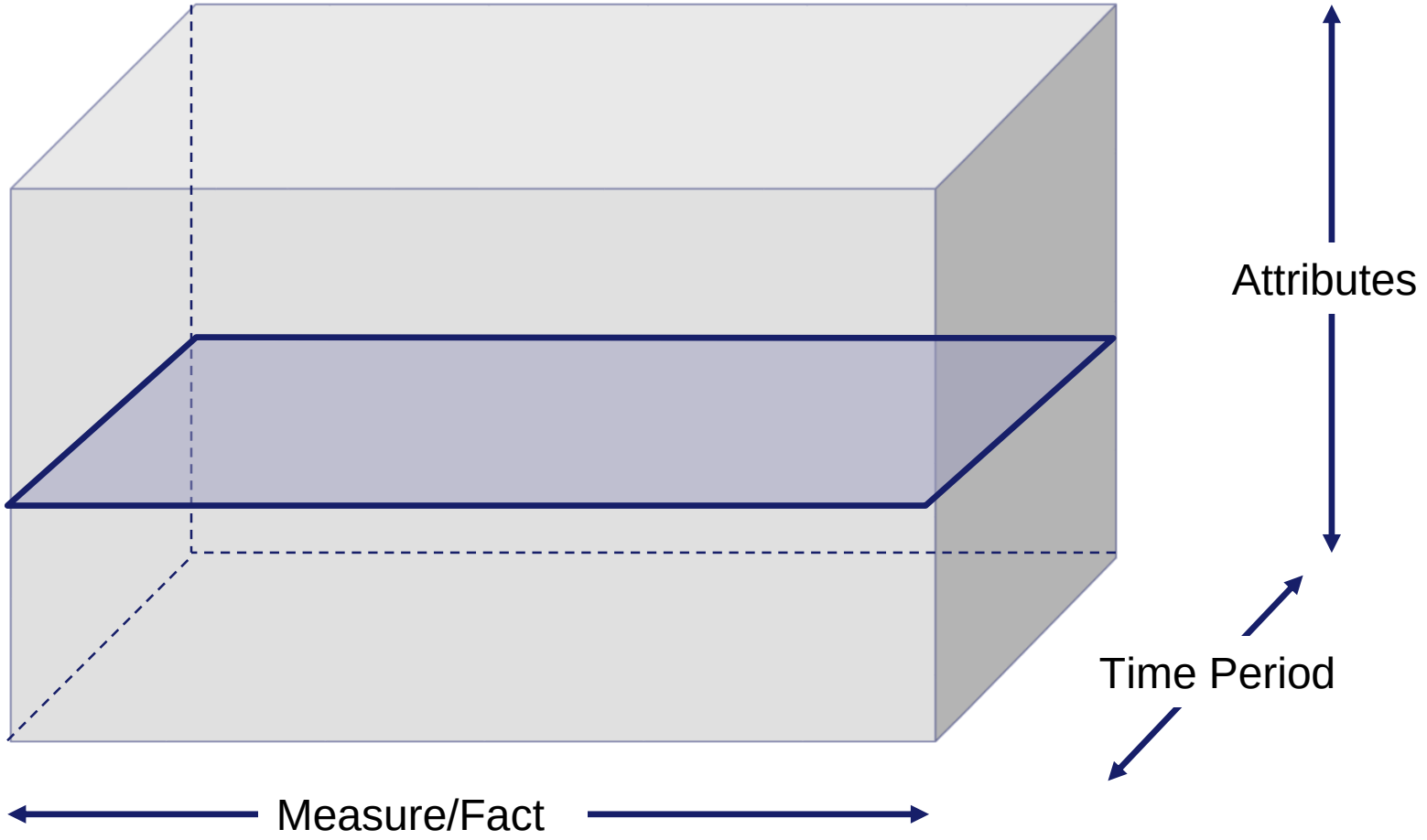
Bar Chart
Scatter Plot
Treemap

Performance Analysis



Bar Chart
Scatter Plot
Line Chart
Area Chart
Trellis

Flow Analysis



Line Chart
Area Chart
Trellis
Waterfall

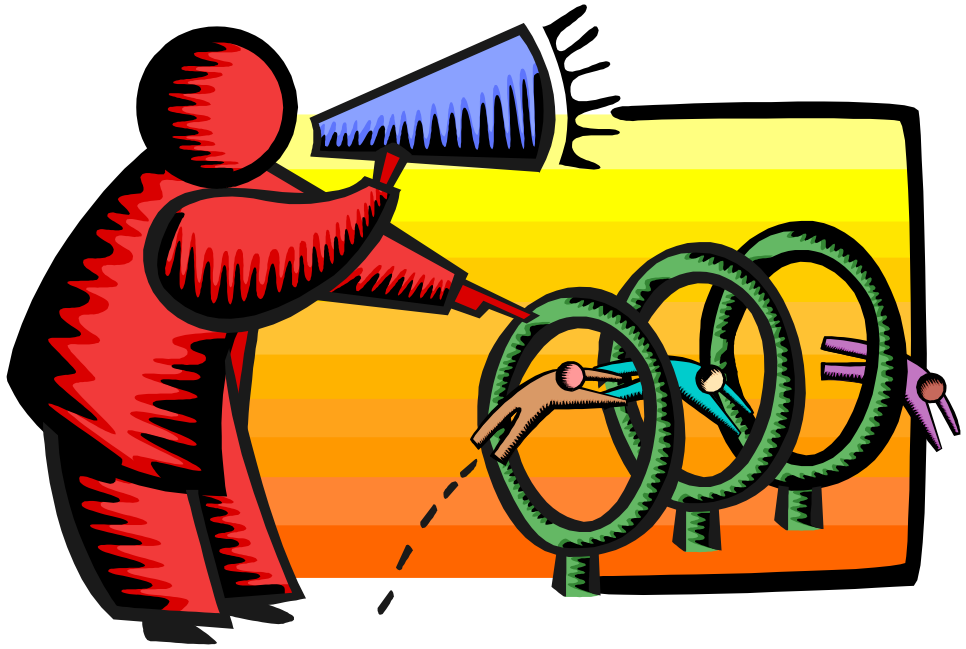
Well Established Frameworks

- Key Performance Indicator (KPI) Development (business)
- Root cause analysis (science)
- Diagnostic analytics (science)

Dimensional Columns

	Flat	Shaped
High number of factors / cardinality	**Lowest Grain**	**Trend/cycle** **Correlation** **Outlier**
Low number of factors / cardinality	**Trellis**	**Comparative** **Correlation**

Demo



Keys to Data Discovery

- Identify your main topic of interest with a performance tile
- Summary
- Evaluating a fact or a dimension?
  - Sales analysis
  - Customer or product analysis
- Fact analysis
  - Find lowest grain
  - Flat low distribution
  - Event or transaction
- Look for clustered distribution
    - Scatter with points as event in fact table
      - Set fact on X axis and response variable on Y axis

Major Types and Uses of Graphs

- Scatter plot – outlier detection
- Line graph – time based measures. Looking for trends and patterns
- Bar graph – comparison analysis

Add screen captures for each type with callouts?
Examples in SampleApp DV?

Starting with Data Discovery

- Begin either with a specific question or a framework
- Avoid “wandering around”
- Most of your visualizations will not produce new insights
- Move quickly through visualizations
- Be prepared to open a lot of browser tabs

Finding is not Explaining

- Process of interaction has a huge impact on the contextual understanding of an insight
- When someone discovers something, they believe it more
- Human Cognition Biases

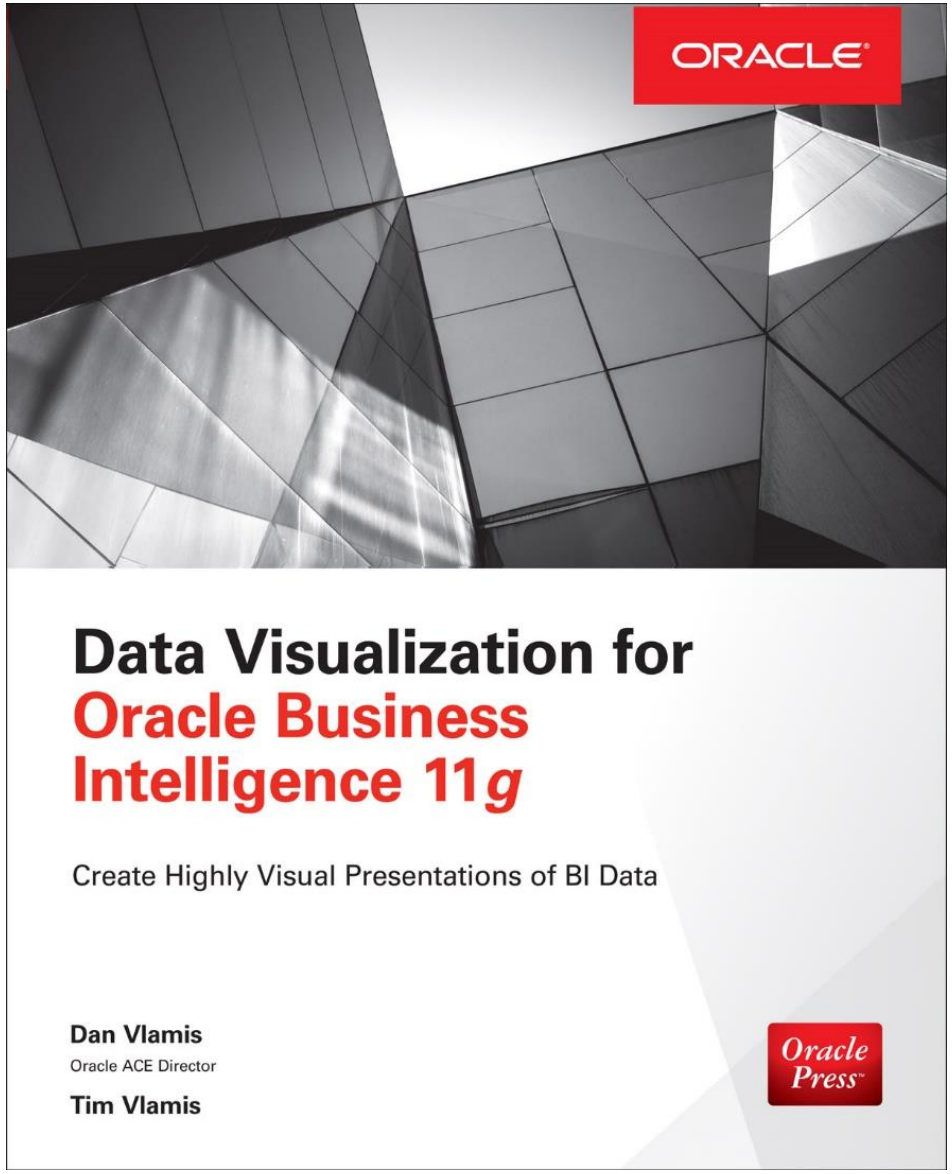
Oracle Cloud Test Drive

- **Free** to try Oracle BICS, Oracle Advanced Analytics
- Go to www.vlamis.com/tdcloud
- Runs on Oracle Cloud
- Test Drives for:
  - Oracle BICS
  - Oracle Advanced Analytics (call us)
  - More test drives to be added
- Once sign up, you can access for 24 hours
- Click by click script included, but can go “off road”
- Faster and easier than official Oracle “trial web account”

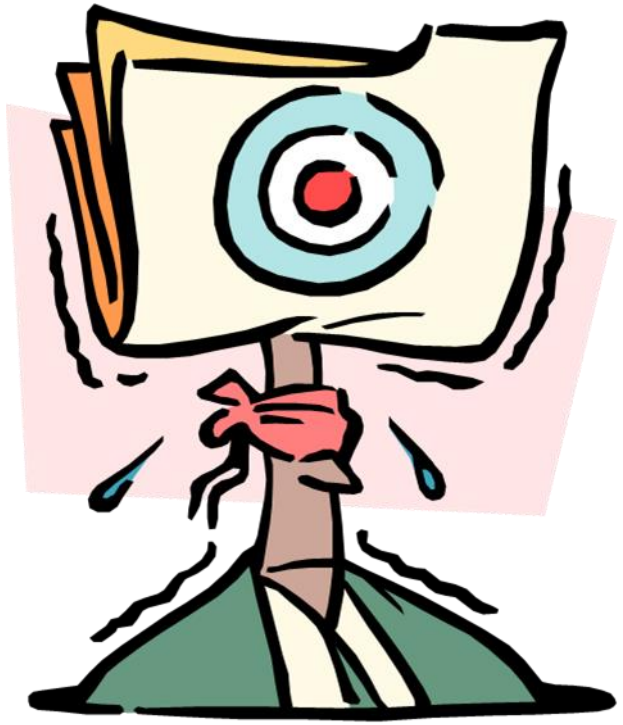
Drawing for Free Book

Add business card to basket

or fill out card



Questions?



Thank You!

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