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Visual Analyzer and Best Practices for Data Discovery

ODTUG KScope 16

Tim Vlamis and Arthur Dayton

Tuesday, June 28, 2016

Agenda

- Understanding the foundations of data discovery

- Discovery scenarios

- Discovery frameworks

- Using Visual Analyzer to discover data insights

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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
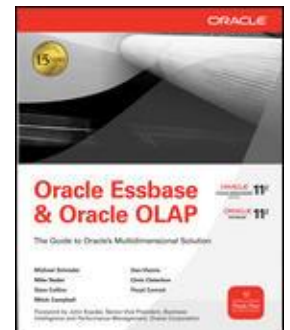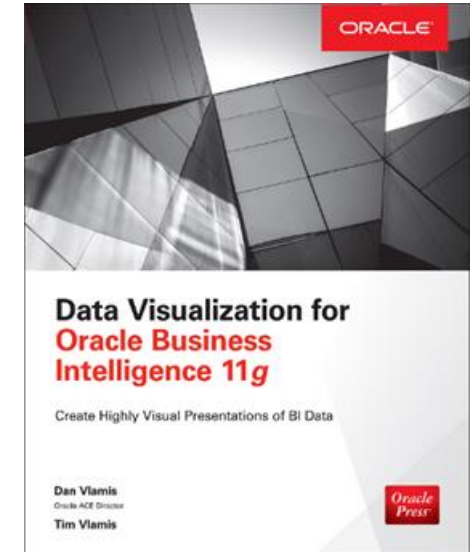
Tim Vlamis and Arthur Dayton

- ## Tim (business analyst and academic guy)
  - 25+ years in business modeling, valuation, and scenario analysis
  - Oracle ACE
  - Professional Certified Marketer (PCM) from AMA
  - Adjunct Professor of Business, Benedictine College
  - MBA Kellogg School of Management (Northwestern University)
  - BA Economics, Yale University

- ## Arthur(IT Architect and hands-on expert)
  - Financial Accounting background
  - 10+ years developing with Oracle software
  - Many years as an Oracle customer
  - Adjunct Technology Professor at University of Nebraska

Vlamis Involvement in Presentations

Presenter	Time	Location	Title
Dan Vlamis & Arthur Dayton	Mon 8:30 AM	Mayfair	Upgrading to Oracle Business Intelligence 12c
Dan Vlamis & Tim Vlamis	Mon 4:30 PM	Mayfair	Data Visualization for Oracle Business Intelligence
Tim Vlamis	Tues 8:30 AM	Missouri	Clustering Data with Oracle Data Mining: The Easiest Place to Start in Predictive Analytics
Arthur Dayton	Tues 11:15 AM	Superior A	Data Discovery Best Practices with Visual Analyzer – Hands On Lab
Tim Vlamis & Dan Vlamis	Tues 2:00 PM	Mayfair	Visual Analyzer and Best Practices for Data Discovery through Data Visualization

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Foundations of Data Discovery

- Discovery 101 - Simple and multiple regression
  - A regression models the past relationship between variables to predict their future behavior
  - One independent variable is **simple regression**
  - Two or more independent variables is **multiple regression**

- What's new about the technology that makes discovery easier and how is it different from last generation BI tools?

- Data discovery needs to come to masses because of the 3 V's

Discovery Scenarios

- Familiar with data, looking for new insights

- Add new contextual data to find new relationships
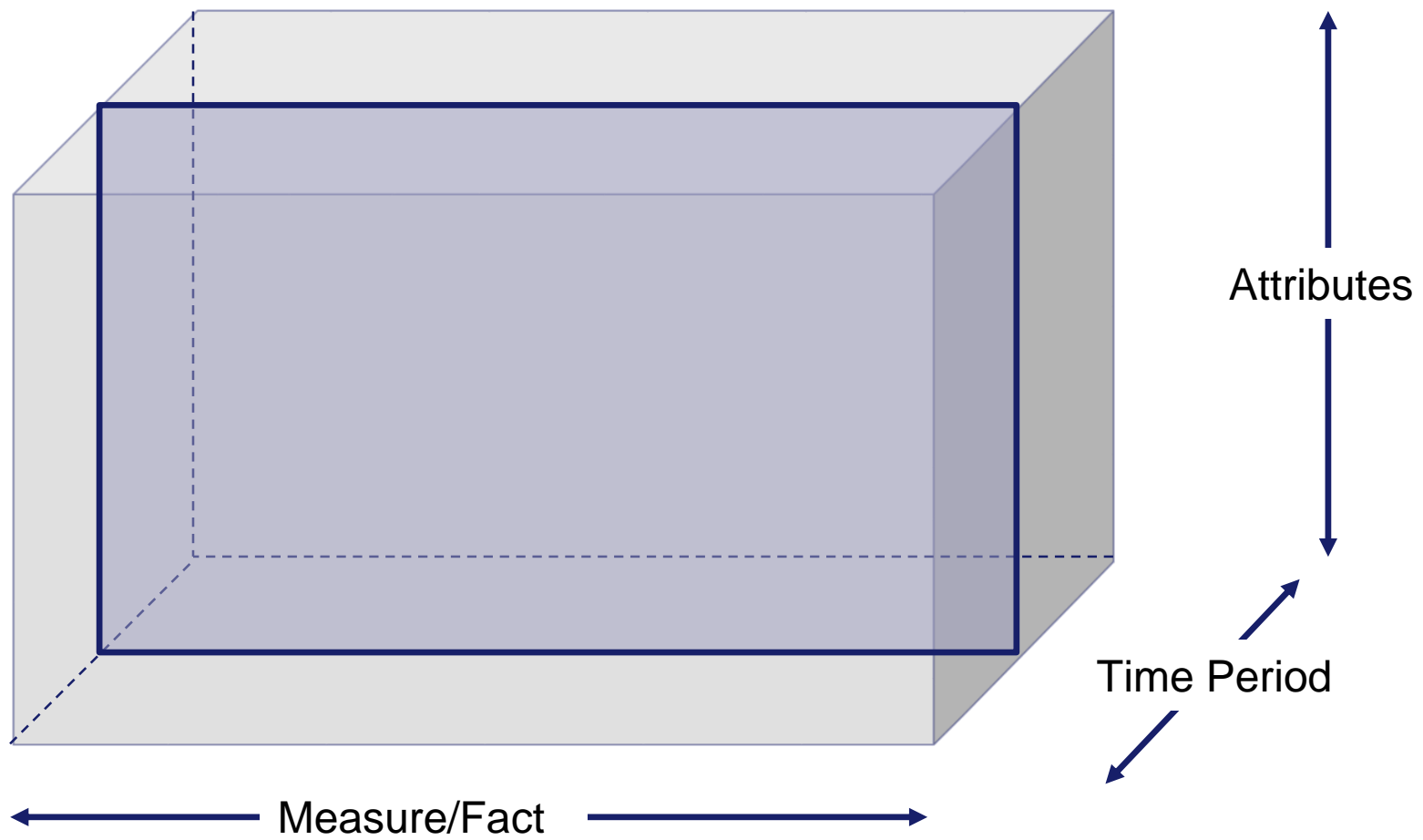
- New to a data set, true exploration

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

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Position Analysis

Attributes

Time Period

Measure/Fact

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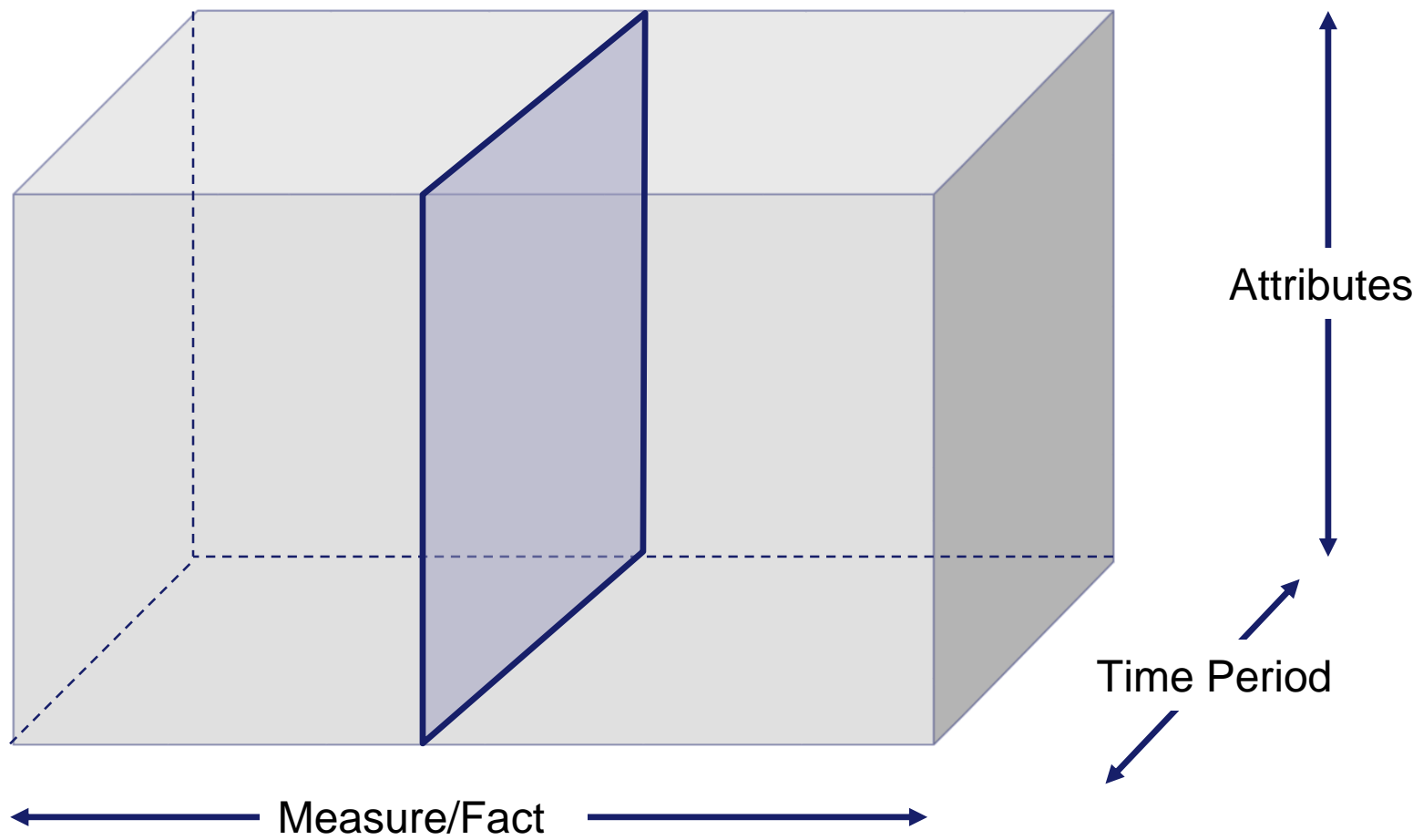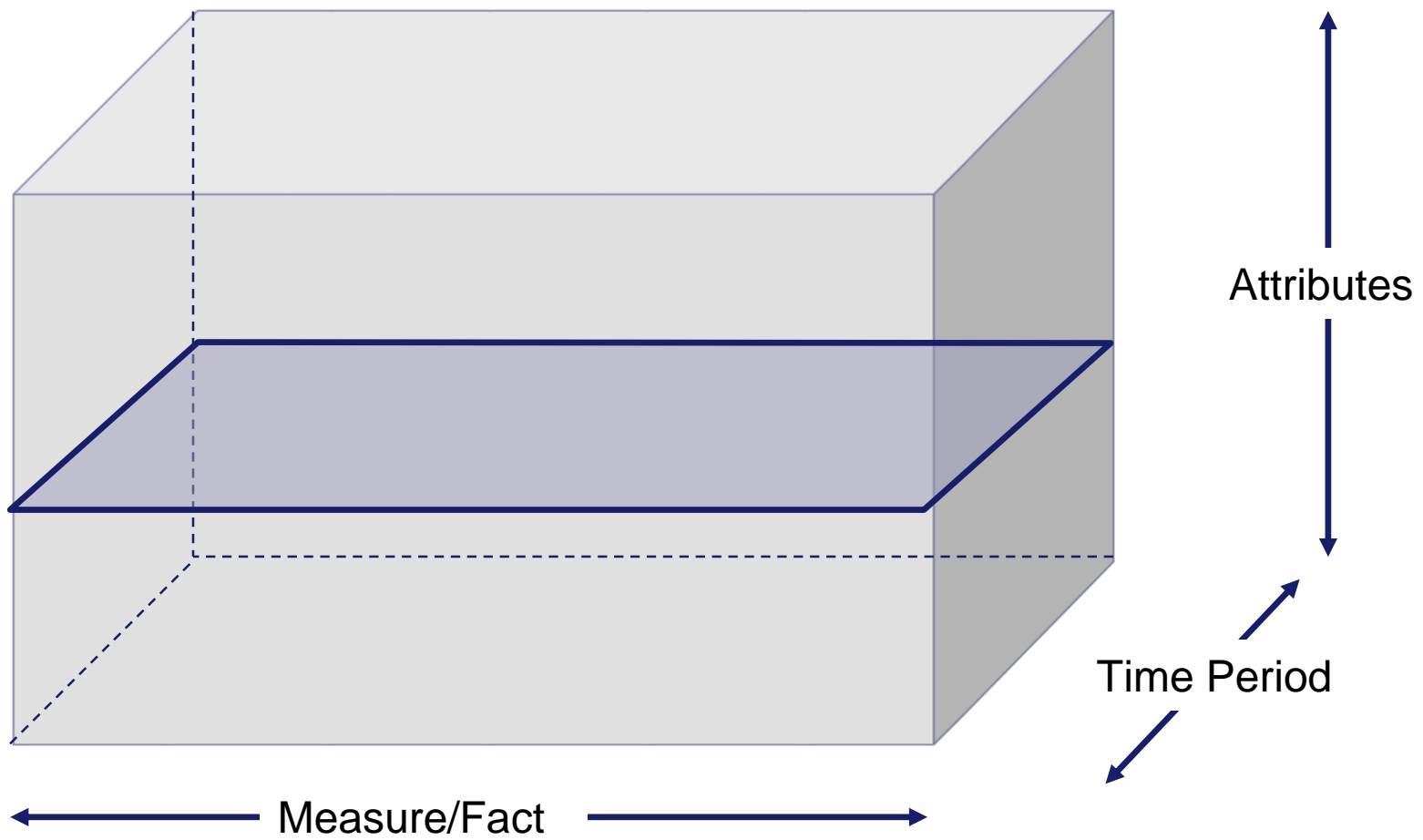
Performance Analysis

Flow Analysis

Well Established Frameworks

- Key Performance Indicator (KPI) Development (business)

- Root cause analysis (science)

- Diagnostic analytics (science)

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Second Demo

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

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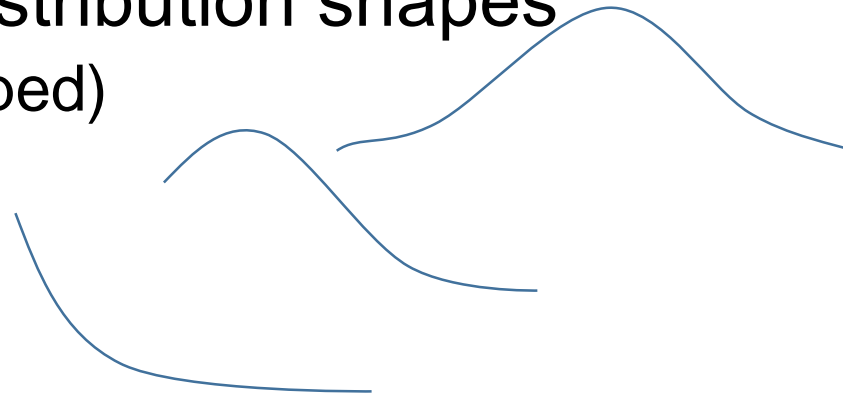
Starting with Data Discovery

- 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

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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

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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 (initially Oracle Data Mining)
  - 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"

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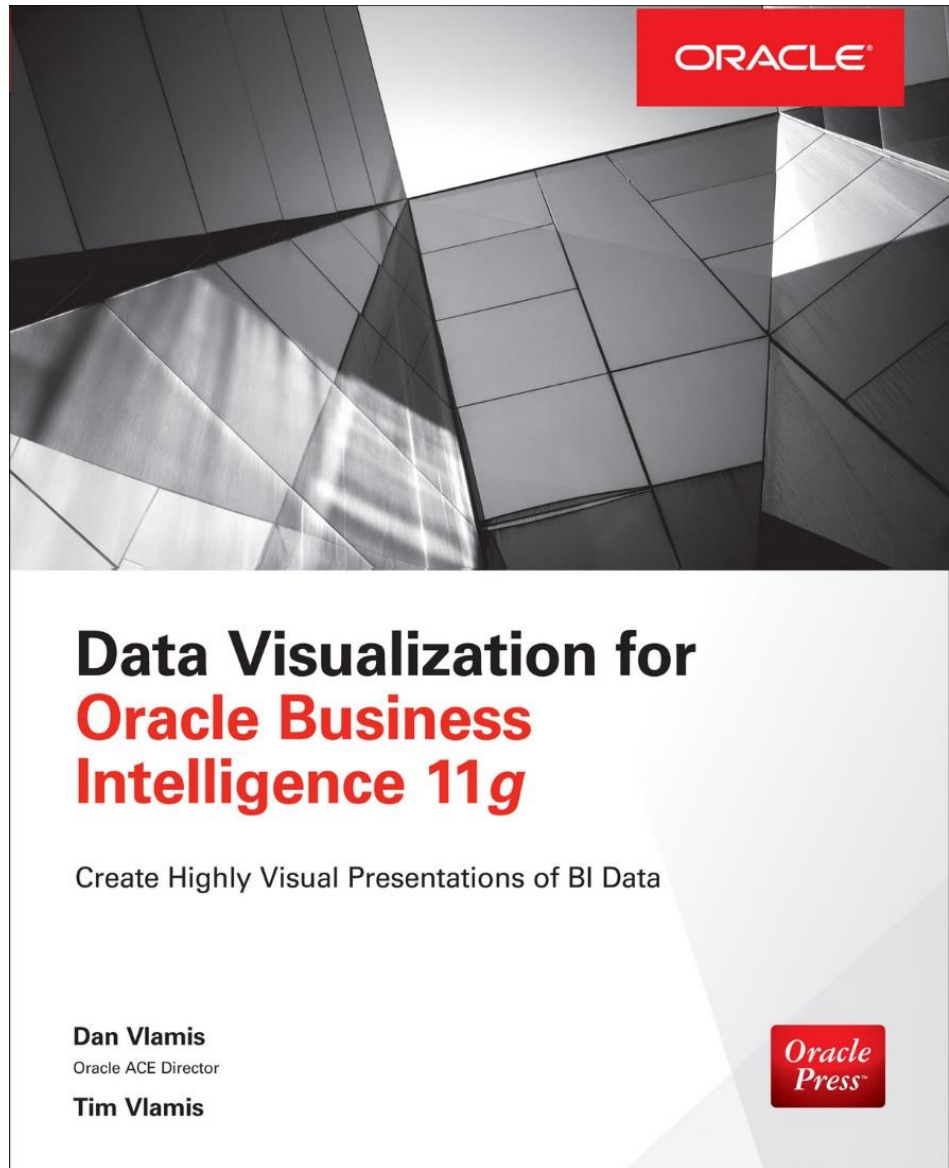
Thank You!

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