

# Visual Analyzer and Best Practices for Data Discovery Through Data Visualization

RMOUG 2016

Tim VlamiS and Dan VlamiS

February 11, 2016



# Agenda

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

# VlamiS Software Solutions

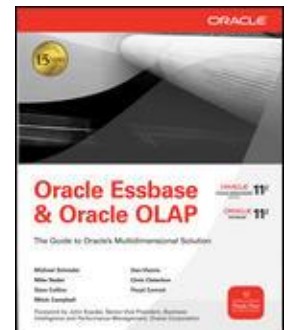
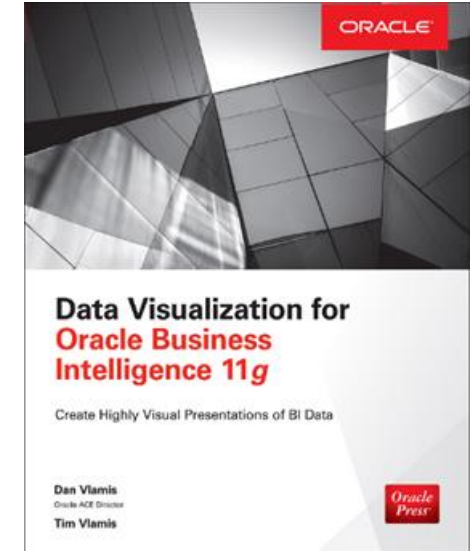
- VlamiS Software founded in 1992 in Kansas City, Missouri
- Developed 200+ Oracle BI and analytics systems
- Specializes in Oracle-based:
  - Enterprise Business Intelligence
  - Data Warehousing
  - Data Mining and Predictive Analytics
  - Data Visualization
- Multiple Oracle ACEs, consultants average 15+ years
- [www.vlamiS.com](http://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

 EDUCATION RESELLER

 APPROVED  
EDUCATION CENTER

 Gold  
Partner

Specialized  
Oracle Business Intelligence  
Foundation Suite 11g






# Dan and Tim VlamiS

## ■ Dan

- Founded VlamiS Software Solutions in 1993
- 25+ years in business intelligence, dimensional modeling
- Oracle ACE Director 
- Developer for IRI (expert in Oracle OLAP and related)
- BA Computer Science Brown University

## ■ Tim

- 25+ years in business modeling, valuation, and scenario analysis
- Oracle ACE 
- Adjunct Professor of Business, Benedictine College
- MBA Kellogg School of Management (Northwestern University)
- BA Economics, Yale University

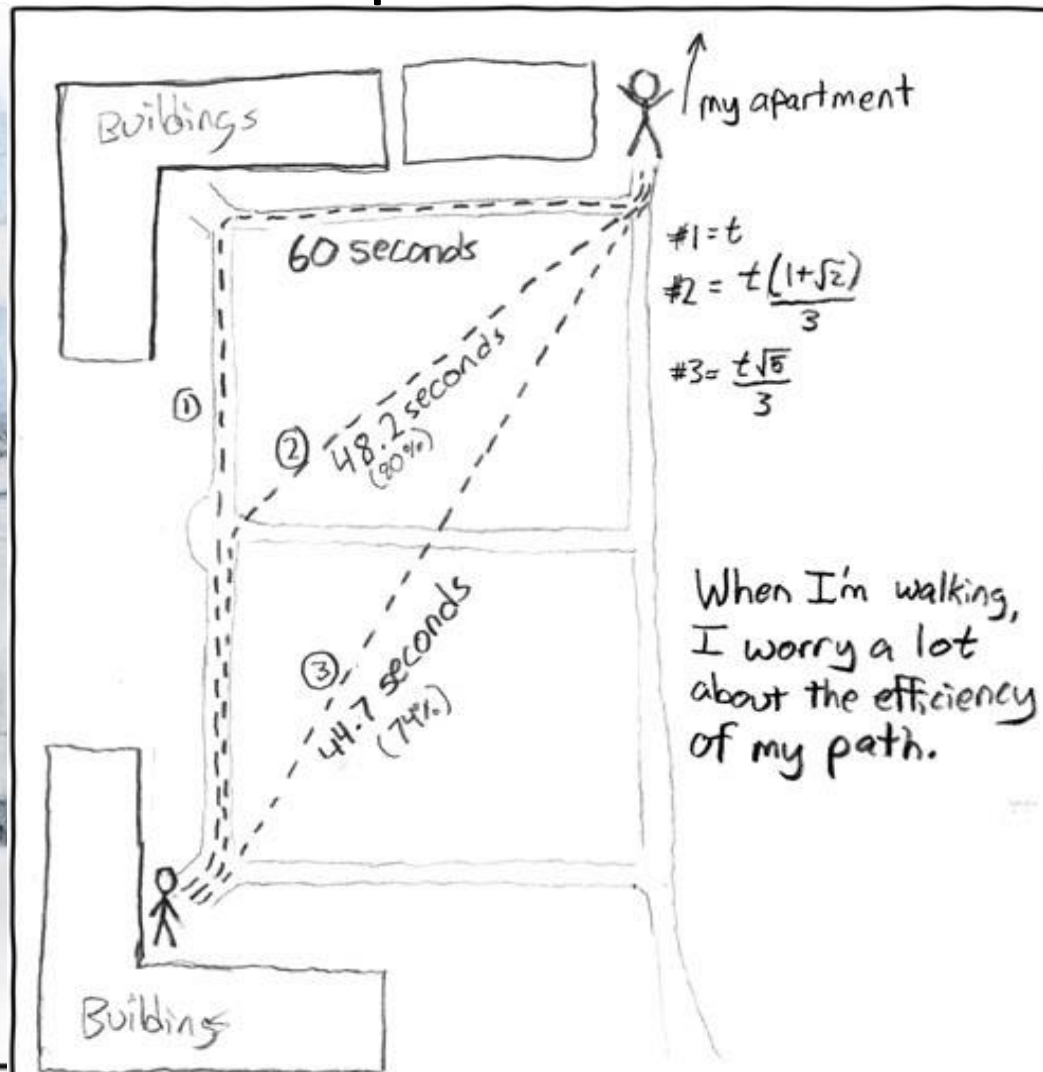


# Main Uses of BI Systems

## Exploration



## Explanation





# Foundations of Data Discovery

- Reveal relationships, patterns, and features in data sets.
- This is virtually the same definition we use for data mining.
- Data discovery needs to come to masses because of the 3 V's



# Discovery Scenarios

- New to a data set, true exploration
- Familiar with data, looking for new insights
- Looking for new ways to see known relationships



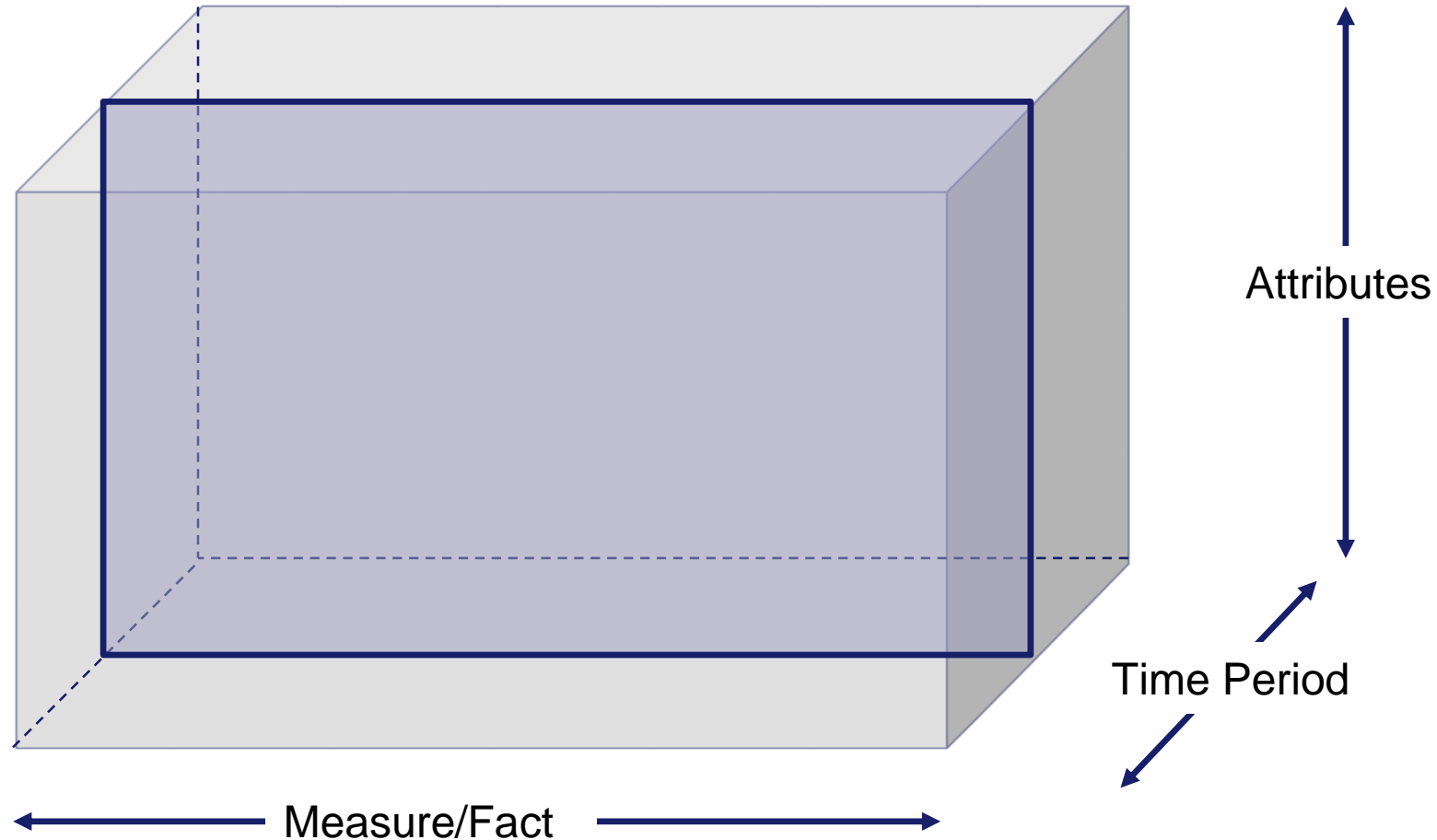
# An Example Useful Framework

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



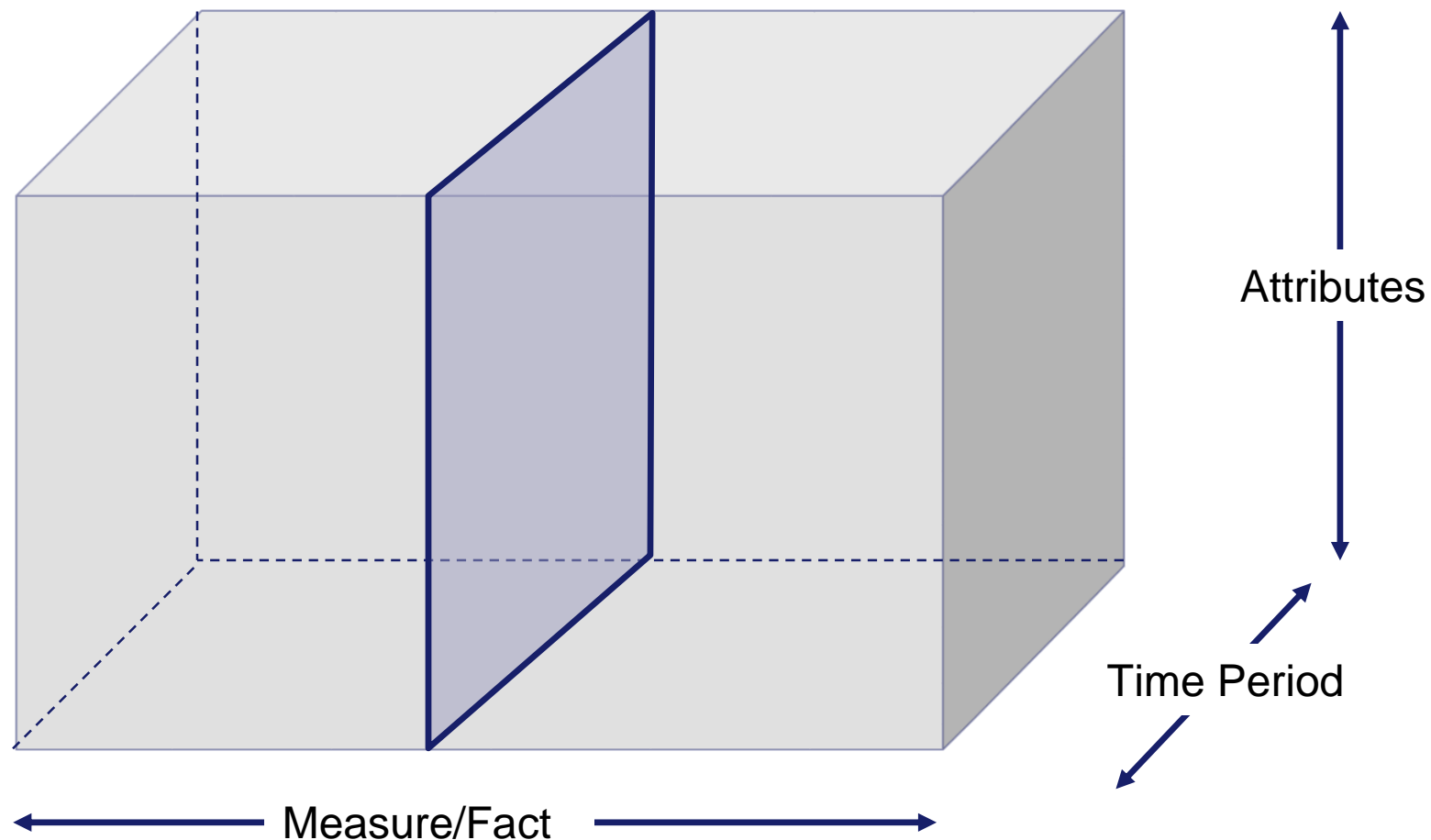


# Position Analysis



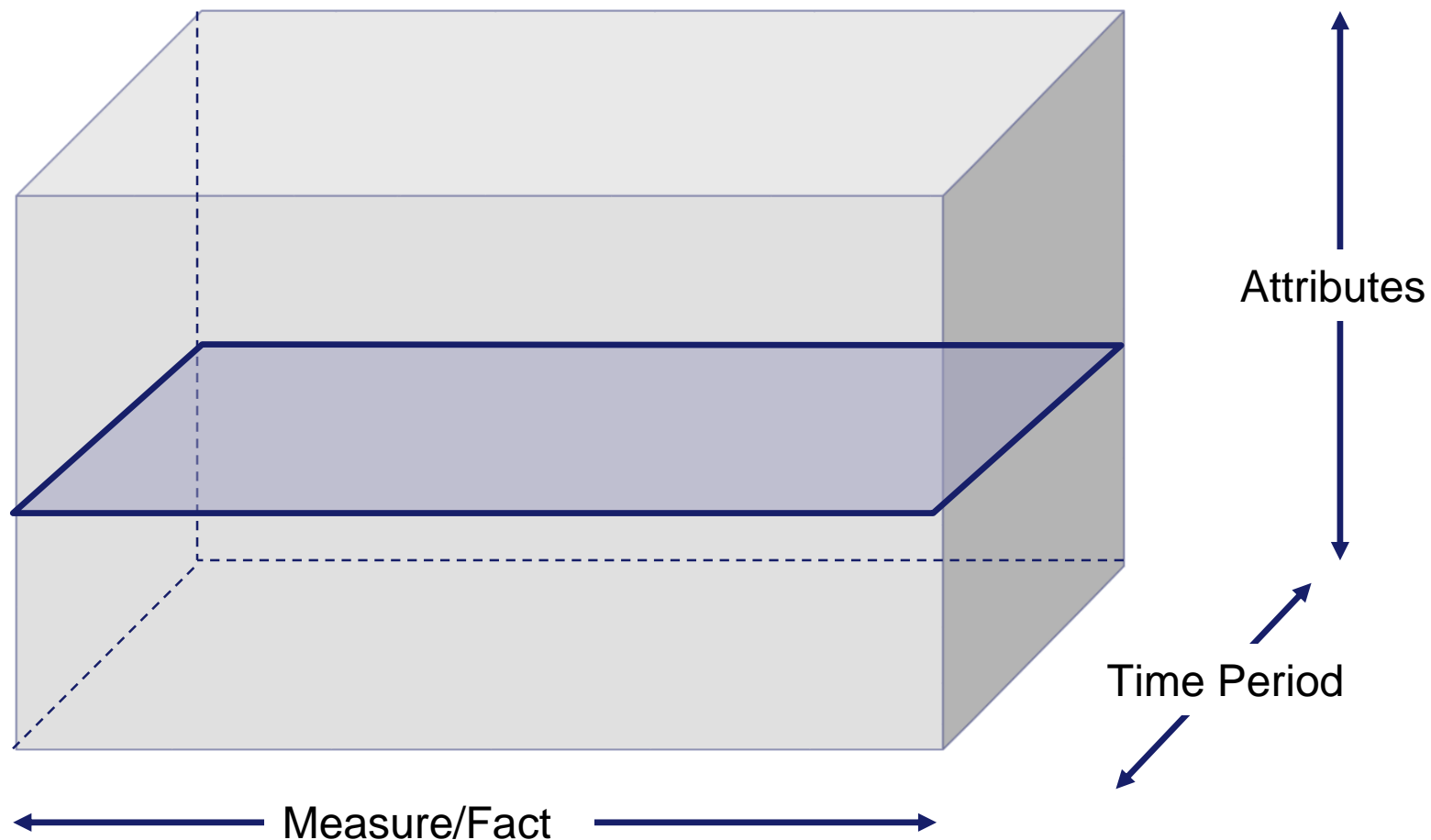


# Performance Analysis





# Flow Analysis





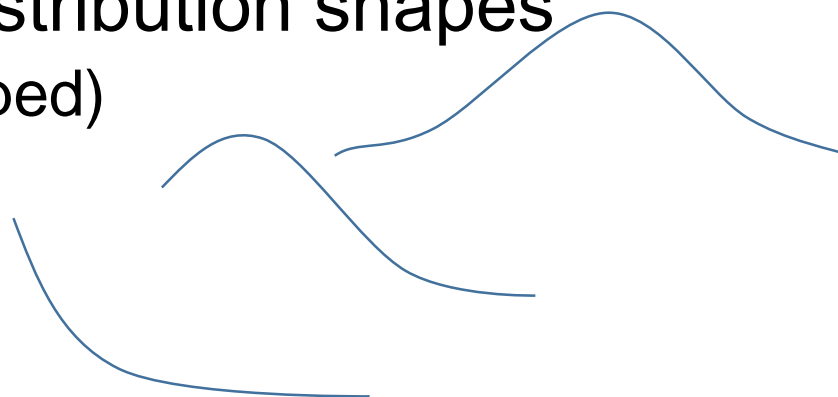
# Well Established Frameworks

- Key Performance Indicator (KPI) Development (business)
- Root cause analysis (science)
- Diagnostic analytics (science)
- CRISP-DM (data mining)



# 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





# 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



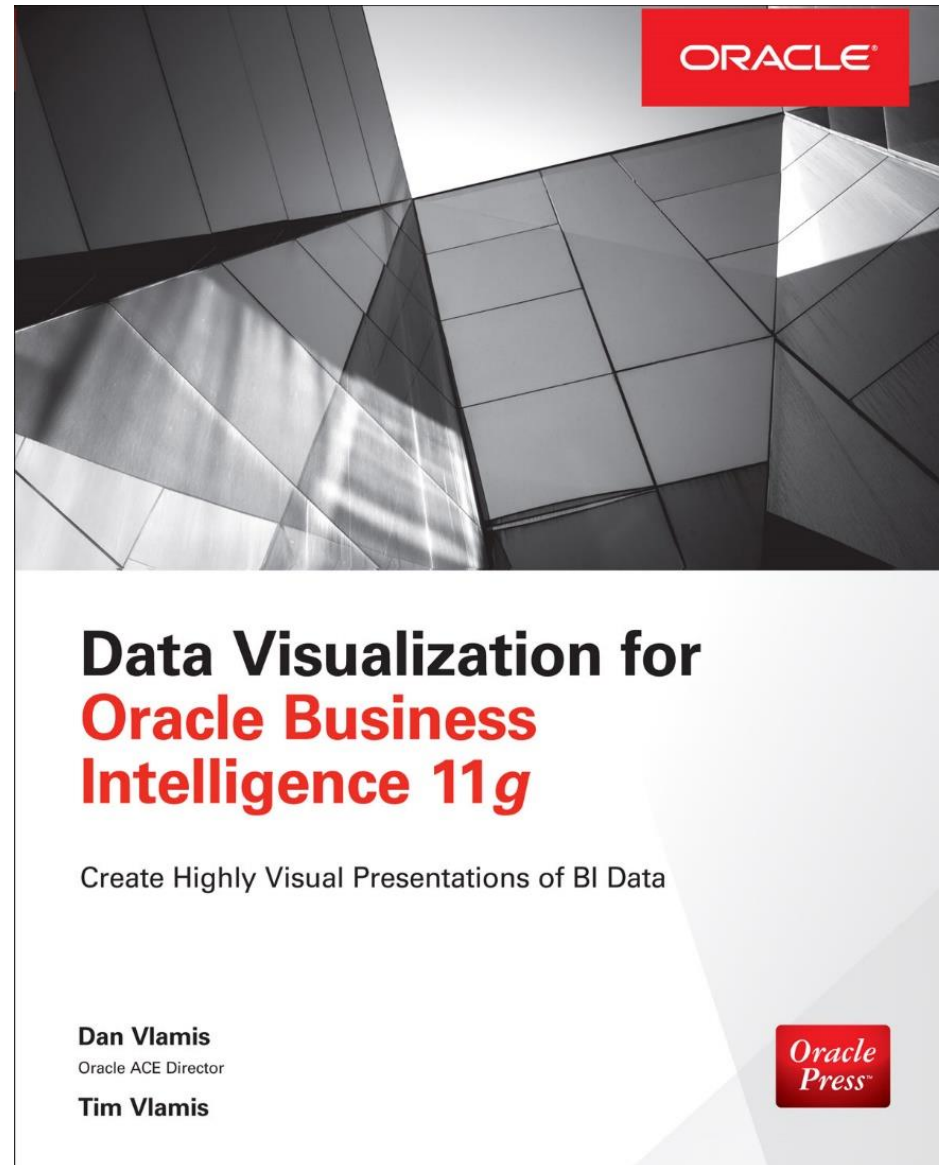
# Finding is not Explaining

- 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



# Drawing for Free Book

Add business card to basket  
or fill out card







# Thank You!

Visual Analyzer and Best Practices for Data Discovery

Tim Vlami, VP & Analytics Strategist

[tvlamis@vlamis.com](mailto:tvlamis@vlamis.com)

Vlami Software Solutions, Inc.

816-781-2880

For more information go to [www.vlami.com](http://www.vlami.com)