



SOFTWARE SOLUTIONS

Managing the Social Responsibility Challenges of Analytics in 21st Century Organizations

**IOUG Strategic Leadership Program
Collaborate 2014**

Tim Vlamis

Dan Vlamis

Vlamis Software Solutions

816-781-2880

<http://www.vlamis.com>



Vlami Software Solutions

- Founded 20+ years ago by Dan Vlami
- Headquartered in Liberty (Kansas City), MO
- Oracle “Gold” Partner and Oracle University Partner
- Focused on Oracle Business Intelligence and Analytics
- Led more than 200 Oracle BI/Analytics implementations
- Specialize in the analytical options to the Oracle DB
 - Oracle Advanced Analytics
 - Oracle Data Mining
 - Oracle R Enterprise
 - Oracle OLAP
 - Oracle Spatial



Tim Vlami's Bio

- 25+ years experience in business modeling and valuation, forecasting, and scenario analyses
- Joined Vlami Software Solutions in 2007
- Oracle University Instructor for Oracle Data Mining
- Expert in data visualization and principles of design
- Professional Certified Marketer (PCM) from AMA
- Active member of NICO (Northwestern Institute on Complex Systems)
- Adjunct Professor of Business Benedictine College
- MBA Kellogg School of Management (Northwestern)
- BA Economics Yale University

tvlamis@vlamis.com 816-781-2880



Good News!

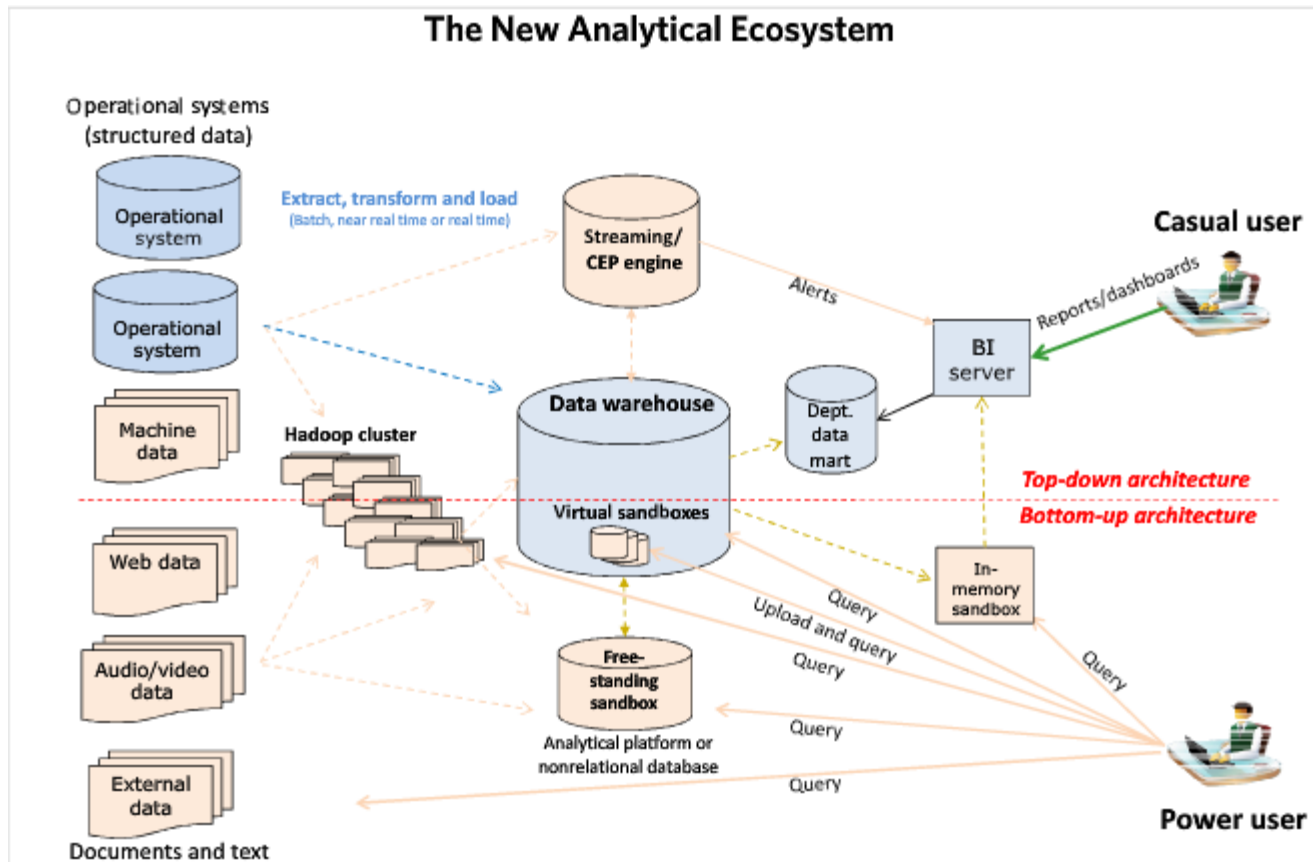
- Analytical tools are readily available, very powerful.
- Significant performance gains are being achieved through advanced analytics.
- Everyone has a basic grounding in analytical thinking.



**Humans are Pattern
Seeking Creatures**

Analytics Data Warehouses are large

- Oracle Business Intelligence implementations average:
 - About 3000 users
 - Approximately 5 terabytes of data





Spectrum of Oracle DB BI & Analytics

OLAP

Summaries and drills by dimensions

“Analysis”

What is the average duration of phone calls, by region, by year?

Data Mining

Knowledge discovery of hidden patterns

“Insight & Prediction”

Who is likely to answer the phone at certain times of day and why?

Spatial

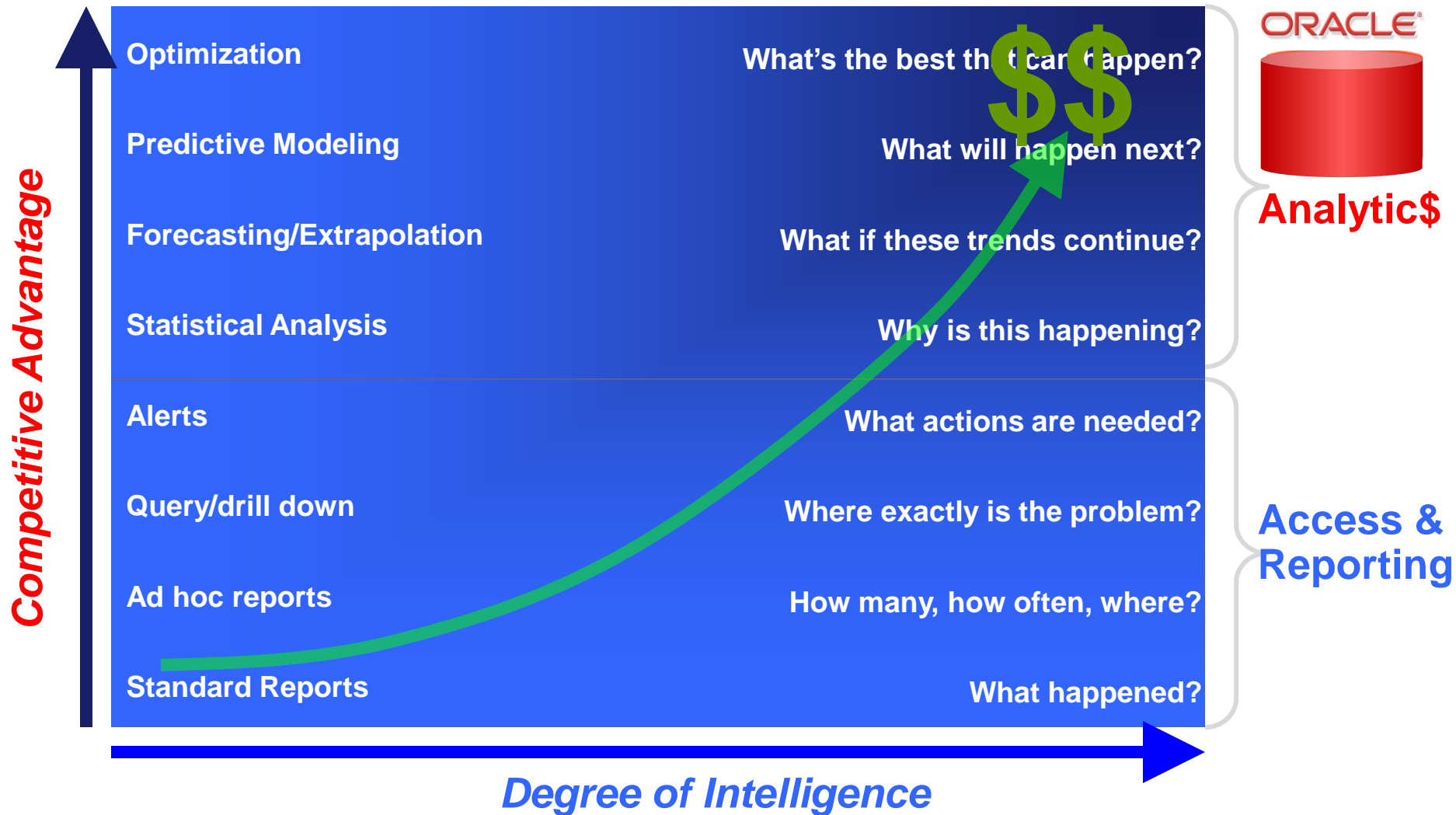
Spatial relationships between data

“Location”

Where were stores with the highest answer rates in the last 3 years?



Competitive Advantage of BI & Analytics



Source: Competing on Analytics, by T. Davenport & J. Harris

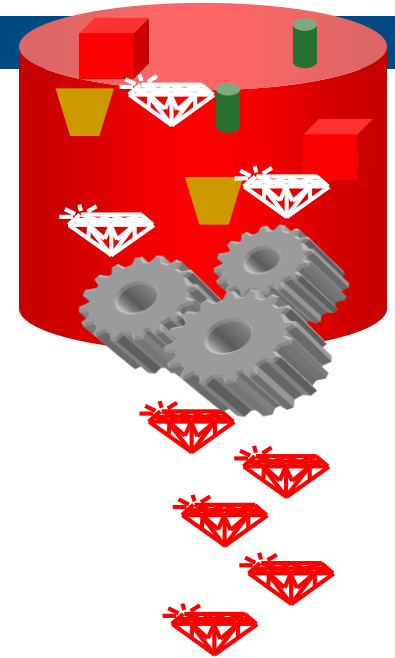
Copyright © 2014, Vlami Software Solutions, Inc.



What is Data Mining?



- Automatically sifts through data to find hidden patterns, discover new insights, and make predictions
- Data Mining can provide valuable results:
 - Predict customer behavior (*Classification*)
 - Predict or estimate a value (*Regression*)
 - Segment a population (*Clustering*)
 - Identify factors more associated with a business problem (*Attribute Importance*)
 - Find profiles of targeted people or items (*Decision Trees*)
 - Determine important relationships and “market baskets” within the population (*Associations*)
 - Find fraudulent or “rare events” (*Anomaly Detection*)






We have LOTS of data

Every day, we create 2.5 quintillion bytes of data
– so much that 90% of the data in the world today
has been created in the last two years.

2,500,000,000,
000,000,000

A decorative logo consisting of a white square with a stylized, nested geometric pattern inside, set against a blue background.

"With great power comes great responsibility."

Uncle Ben to Peter Parker, Spiderman 2002





Target & the Pregnant Teen

HOME PAGE | TODAY'S PAPER | VIDEO | MOST POPULAR | Global Edition ▼

The New York Times | International Herald Tribune

GLOBAL EDITION
Magazine

WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | SPORTS | OPINION | AF

How Companies Learn Your Secrets



Antonio Bolfo/Reportage for The New York Times

By CHARLES DUHIGG
Published: February 18, 2012 | 570 Comments

http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html?_r=1



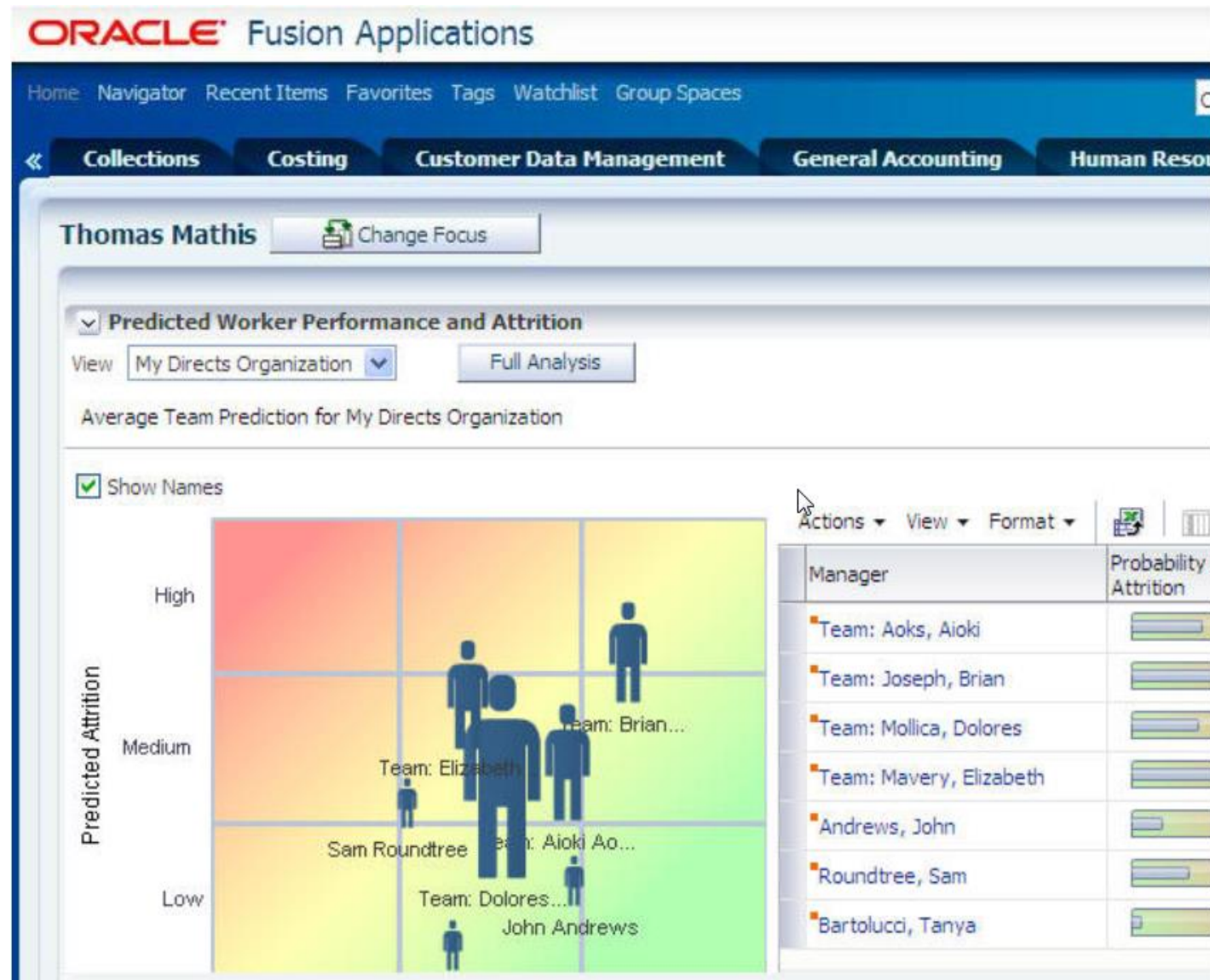
Fox News Clip





Oracle Fusion Human Capital Management

Who Is Entitled to Information?





Great Responsibility Requires Thought

- How do we balance the interests of organizations in leveraging their key data and analytical assets with the interests of employees, customers, consumers, and other stakeholders?
- What frameworks and philosophies should guide us?
- What are the proper roles of the private sector and of the public sector in achieving this balance?



More Important Questions

- What responsibilities do organizations have to inform others of data capture and analysis activities?
- What constitutes consent?
- What expectations of privacy should people have in public settings?
- Is anonymous data ok to capture? How much detail is ok to capture on individual events or customers?



Frameworks for Analysis

- Stakeholder analysis
- Negotiations/shared interests
- Fiduciary responsibility
- Risk management
- Security
- Data governance and Master Data Management
- Distributive Justice, Ethics, and Moral Philosophy
- Legal framework (HIPAA, EU Data Protection Directive, FCRA, etc.)
- Data Mining Frameworks (KDD, CRISP-DM, etc.)
- Complex Adaptive Systems, Systems Dynamics,
- Your favorite framework



Oracle's Products Are About Analytics

Google

analytics site:oracle.com/us/products

Web

News

Images

Books

V

About 2,110 results (0.29 seconds)

Google

"predictive analytics" site:oracle.com/

Web

News

Images

Books

'

About 1,580 results (0.22 seconds)



McKinsey's Take on Analytics Talent

“There will be a shortage of talent necessary for organizations to take advantage of big data. By 2018, the United States alone could face a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions.”

McKinsey Global Institute 2014

Thank You!

Questions?

tvlamis@vlamis.com



Sources and supplementary material

- <http://www.vlamiS.com>
- www.nytimes.com/2012/02/19/magazine/shopping-habits.html
- <http://www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did/>
- <http://www.colbertnation.com/the-colbert-report-videos/408981/february-22-2012/the-word---surrender-to-a-buyer-power>
- <http://video.foxnews.com/v/1470704607001/>
- <http://www.predictiveanalyticsworld.com/target>
- <http://www.kdnuggets.com/>
- <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/index.html>
- <http://www.rexeranalytics.com/Data-Miner-Survey-Results-2011.html>



Sources and supplementary material

- http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation
- <http://www.oracle.com/us/products/applications/human-capital-management/future-hcm-analytics-2030338.pdf>
- <http://online.wsj.com/news/articles/SB10001424052702304723304577365700368073674>
- <http://www.fastcompany.com/3021614/fast-feed/white-house-to-universities-we-need-more-data-scientists>
- <http://www.dataprotection.ie/docs/EU-Directive-95-46-EC/89.htm>