

Making Business Intelligence Actionable

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You've never seen your business like this before.



Biography



- Richard Hackathorn
Bolder Technology, Inc.
- President and founder with thirty years of IT experience.
- Regular columnist for DM Review and other trade publications
- Conducted professional seminars in eighteen countries.
- Founder of three companies, one of which was MicroDecisionware, a pioneer in middleware and an early SQL tool vendor to Teradata.
- Author of three books: *Web Farming for the Data Warehouse*, *Using the Data Warehouse* (with W. Inmon), *Enterprise Database Connectivity*.
- Professor at the Wharton School, University of Pennsylvania, and at the University of Colorado.
- BS from Caltech; MS and Ph.D. from University of California, Irvine.
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Making Business Intelligence Actionable

Abstract

- After a successful decade, Business Intelligence and Data Warehousing are facing a bumpy road ahead. Five trends are driving BI to resolve the key challenge of making BI actionable. Emphasis must shift from KNOWING to DOING to answer the question: "What do you do with what you know?" Although challenging, the next decade will also be exciting as BI will be embedded throughout organization and will remold the enterprise into the next generation of smart business.
- Partially based on a study of eight Teradata customers
 - > <http://www.teradata.com/t/go.aspx/index.html?id=86984>

3

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Overview

- What is Business Intelligence?
- Key Trends in Business Intelligence
 1. Reactive to Proactive
 2. Strategic to Operational
 3. Casual to Extreme
 4. Whenever to Now
 5. Reliability to Accountability
- Keeping Your Head Above Water!



4

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Making Business Intelligence Actionable

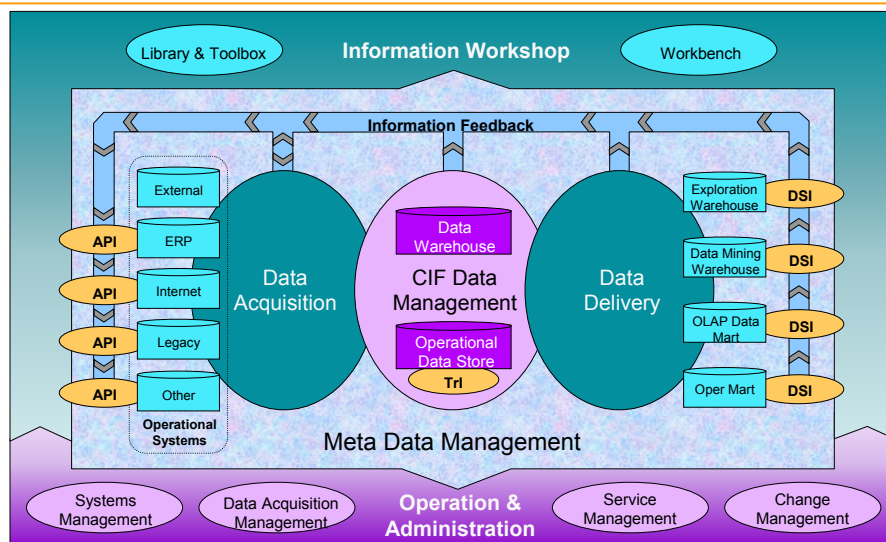
What is Business Intelligence?

- Information infrastructure required to make 'smart' decisions and take effective action in a complex enterprise
- What are smart decisions?
 - > Smart = better than you did yesterday
 - > Smart = better than your competitors today
 - > Smart = better than you ever expected tomorrow
- Economy or efficiency to...
 - > Use of information as an asset
 - > Managing the dynamics of business semantics
 - > Disseminating and collaborating with information
 - > Blurring traditional boundaries of the value chain
- Goal: Consistent view of business reality

5

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Corporate Information Factory (from Inmon/Imhoff)



6

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Case: 3M Corporation



- Themes
 - > Globalization with local diversity
 - > Atomic-level granularity for actionable analysis
 - > Blending of DW with ODS and data marts
 - > DW as source for transactional systems
 - > Management of unstructured content
- Story: Global Enterprise Data Warehouse
 - > Feeds from transactional systems in 62 countries
 - > "Although 3M has 100 order-processing systems, users can go to only one place for the information needed."
 - > Using the GEDW to print product shipping labels...

7

Interview with Al Messerli on August 29, 2002



Trend #1: Reactive to Proactive

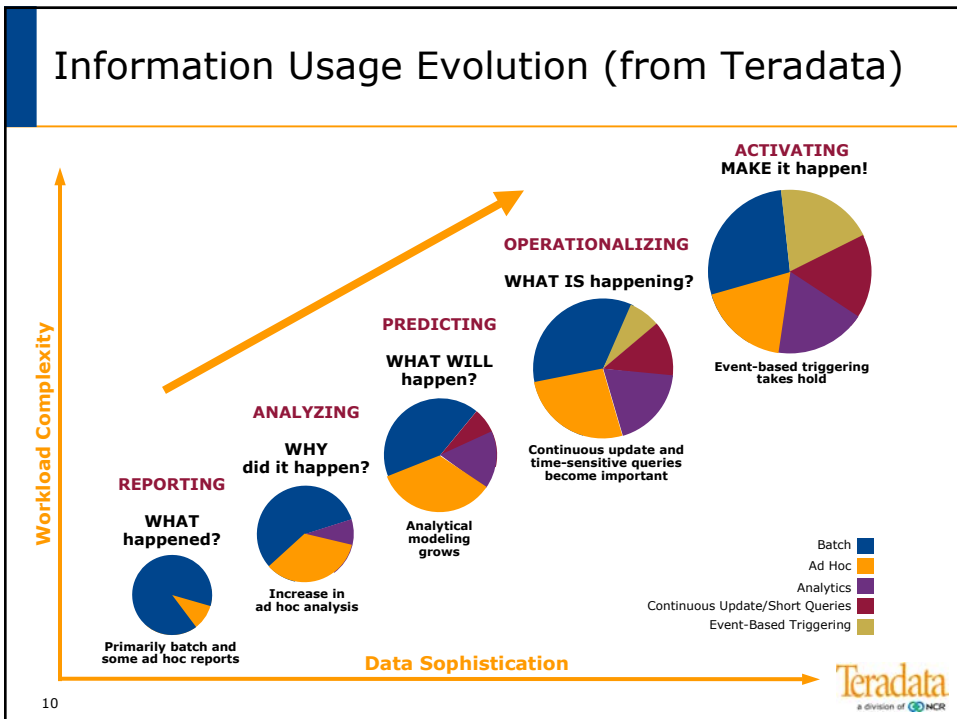
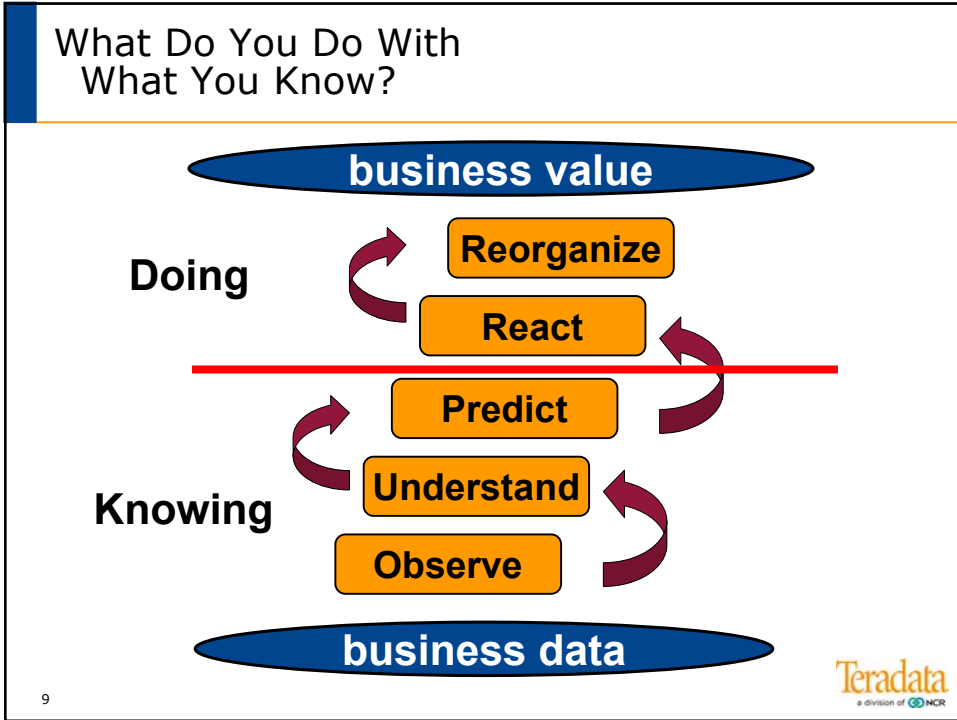
- Traditional BI (Back-Office)
 - > Reactive to serious current problems
 - > Focus on a few executives with big decisions
 - > Hidden from customers and most employees
 - Reports on a need-to-know basis
- In-your-face BI (Front-Office)
 - > Proactive by anticipating future problems
 - > Assisting everyone who can add value
 - Touching customers, product, suppliers...
 - > Visible to customers, suppliers, partners...



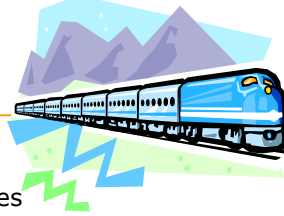
8



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Union Pacific Railroad

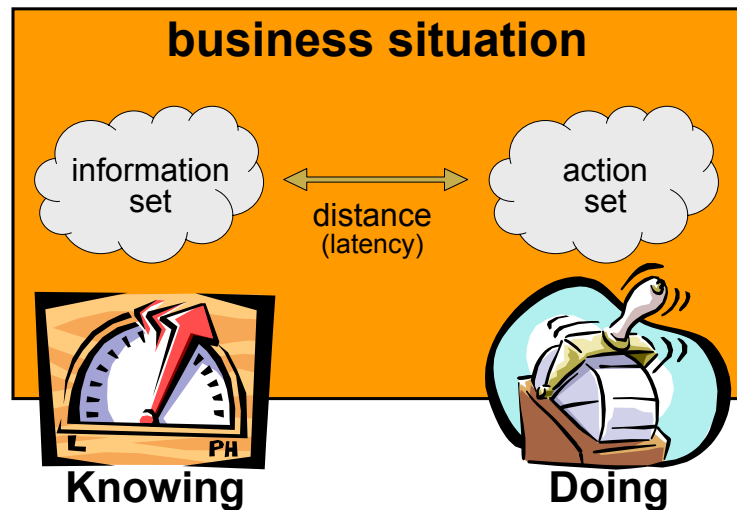


- Largest railroad in western America
 - > \$12 billion in revenues with 48,000 employees
 - > 33,000 miles of track serving 23 states
- Themes
 - > Enterprise-wide data integration
 - > Open information policy for all employees
 - > Consolidation from a single information source
 - > Closed the loop with business 'automation'
- Case: 'trains held for crew' situation
 - > Prioritizing & allocating a scarce resource (crews)
 - > Analysis of: customer impacts, contract obligations, cost estimate of deferring, etc.

11

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Minimizing Action Distance



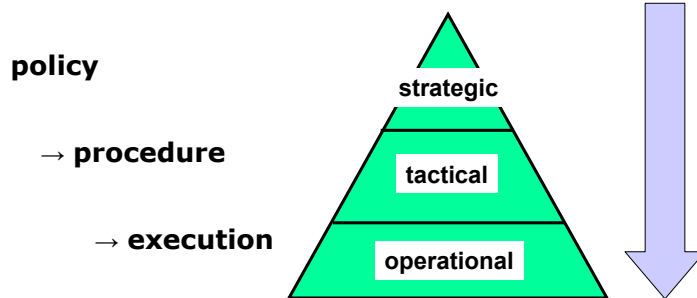
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Trend #2: Strategic to Operational

- Classical organization theory states...

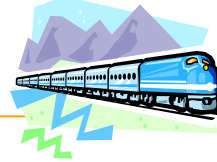


- Principles:
 - > Many Small Decisions > Few Big Decisions
 - > Convergence of data and process analyses

13

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Union Pacific Railroad



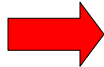
- Enterprise-wide data integration
 - > Consolidation into a single information source
 - > Closed the loop with business automation
- Open information sharing for all employees
- "The one thing that works for us is that we have a very open philosophy with our data. We still must have security to sensitive data. However, our philosophy is that any user can ask any question of any data at any time. They do not have to ask IT or wait for a certain time of day. Just ask away! Again, they must have the proper security." -- Paul Evans, Senior Mgr of EDW
- Increased and unpredictable workload on DW

14

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Trend #3: Casual to Extreme

- Extreme performance
 - > Response times measured in milliseconds.
- Extreme scalability
 - > Millions of users accessing petabytes of data.
- Extreme availability
 - > Up all the time; Eliminate all planned and unplanned downtime.
- Extreme data freshness
 - > Visibility to business events immediately available from the DW.
- Extreme comprehensiveness
 - > If it is not there, then you do not need it.
- Extreme integration
 - > Ability to exploit all business relationships in the data.
- Extreme granularity
 - > Atomic data becomes subatomic.



eXtreme Business Intelligence

15

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Trend #3: Casual to Extreme

- This is **eXtreme Data Warehousing!**
 - > ...at the global scope
- Technology is not the limiting factor!
- So, what are the implications?
 - > Better service, quality, reliability?
 - > Reduced costs
 - > More and better control (but by whom?)
 - > Better (or worse) privacy
- It is a sobering thought exercise
 - > ...that will become real in the near future



16

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Trend #4: Whenever to Now

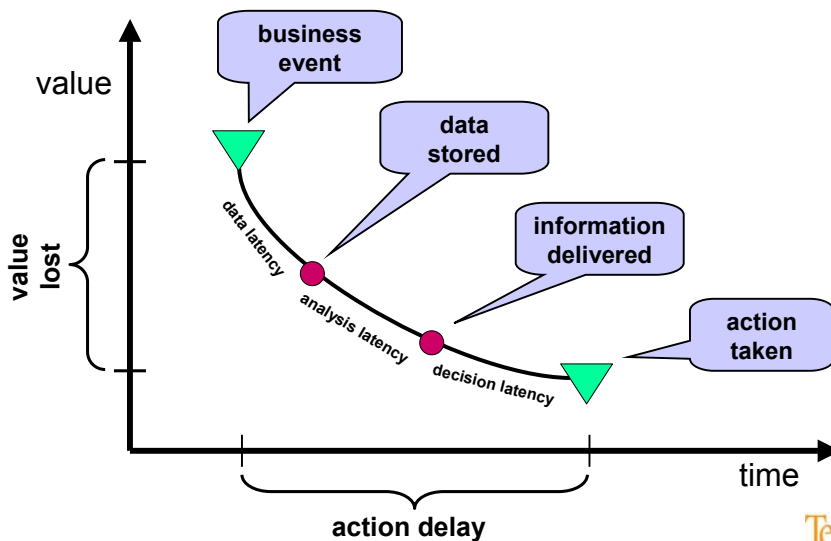
- BI results were expected 'whenever'
 - > Daily or weekly updates; few days for a report
- But today, BI results are expected 'now'
 - > Driving thousands of clicks on the website
- Latency to deliver results is...
 - > Latency to capture data to be ready for analysis
 - > Latency to perform the analysis & delivery
 - > Latency to make a decision & perform the action
- What makes business sense?



17

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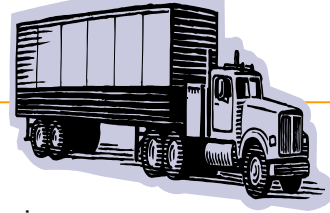
Trend #4: Whenever to Now



18

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Ford Motor Company



- Themes
 - > BI to enable a business end
 - > Operational analytics optimizing supply chain
 - Evolution of alerting to operational analytics
 - > Business need for data freshness
- Case: Inventory Mgt & Alerting System
 - > Nightly reprioritization of parts in the distribution channel
 - > Determine which trucks get unloaded
 - Which pallets, cartons, boxes, and items
 - > Need for precise, just-in-time intelligence
- Smart decisions when you have it on your forklift!

19

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Trend #5: Reliability to Accountability

- BI systems are mission-critical
 - > Need for reliability, availability, and other X-abilities
 - > But today, BI must be more than this...
- Legal compliance to...
 - > Sarbanes-Oxley, BASEL accord, and so on
- Building trust back into our systems
 - > Need for honesty and transparency
 - > Not just for employees, but for customers, etc.
 - > And for the general public and govt. regulators



20

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ChoicePoint

ChoicePoint



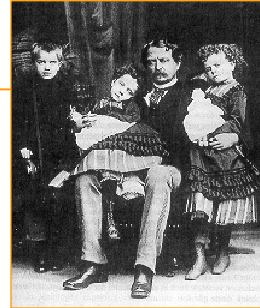
- Information sharing that went too far!
- Mission: "We strive to create a safer and more secure society through the responsible use of information."
 - > "...to assure that we strike the proper balance between society's right to know and the individual's right to privacy"
 - > "...making smarter decisions in a world challenged by increased risks"
- Size: over \$900M with 5,500 employees in 60 locations
- Clients: law enforcement, Homeland Sec.
- WSJ reports... Up to 400K personal records were stolen for identity thief by scam artists.
 - > One of many customer databases that have been compromised

21

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The ^{really} Tough Issues - PAPA

- **P**rivacy - Personal Id, Confidentiality
- **A**ccuracy - Data Quality, Liability
- **P**roperty - Ownership, Control
- **A**ccessibility - Haves and Have-Nots

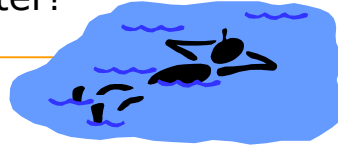


- Richard Mason, *Four Ethical Issues of the Information Age*, Management Information Systems Quarterly, Volume 10, Number 1, March, 1986
- Article to appear in the fall issue of Teradata Magazine

22

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Keeping Your Head Above Water!



- Shift to proactive use of BI
 - > Driven by business opportunities
 - > ...And investing in long-term infrastructure
- Increase the sharing of BI information
 - > Package it to the role of the person
 - > Focus on the people who touch customers, etc.
 - > Even share information with customers and suppliers
- Push toward the extreme
 - > But manage the risk
 - > New opportunities are unfolding every day
 - > Better for you than your competitors
- Leverage low-latency data
 - > Rethink your business assuming you had such data