

Paper #1020
**Data Mining – Getting the Most From Your Data
Warehouse**

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Data Mining -- Getting the Most From Your Data Warehouse

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Agenda

- Data mining: what is it and what can it do for me?
- Data mining versus OLAP...statistics...reporting tools
- Approaches to data mining
- Underlying technologies
- Real-world examples

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Data Mining Defined

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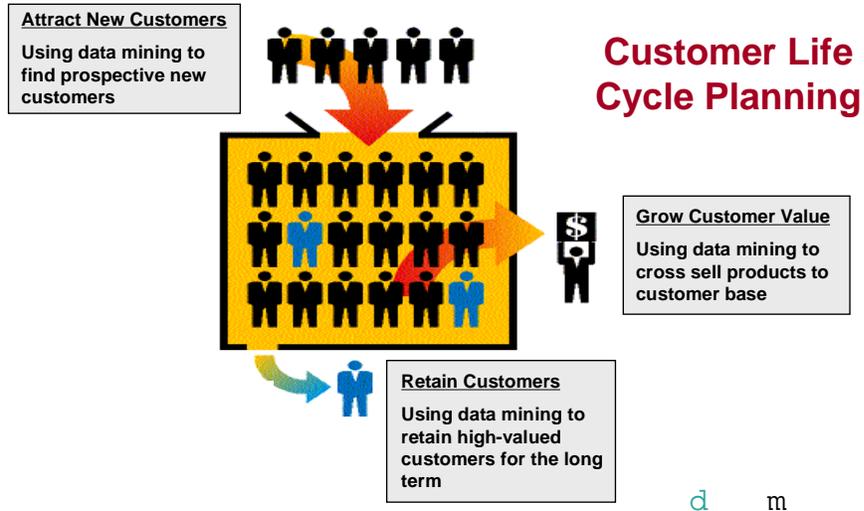
Data Mining

***A new decision support analysis process
used by marketers to find buried knowledge
in corporate data warehouses and data marts***

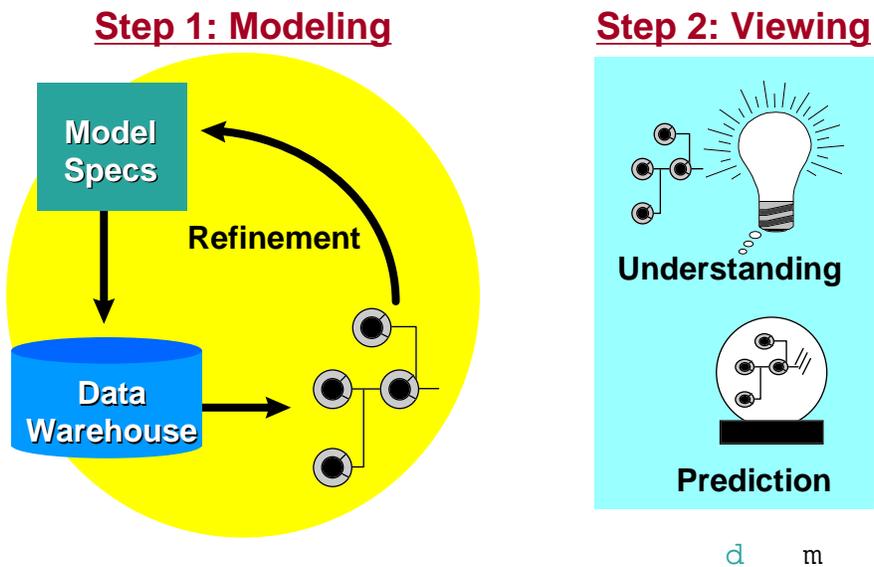
**A \$3.3 billion industry with vendors offering:
data services
generic data mining tools
packaged data mining solutions**

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Many Focus Data Mining on the Customer First

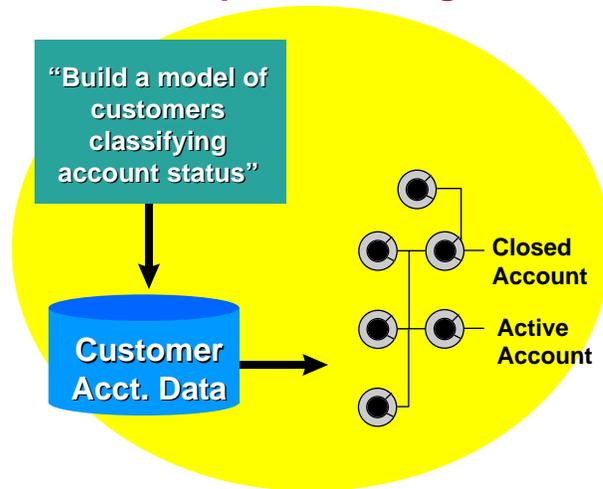


The Process of Mining Data



Data Mining Process Example

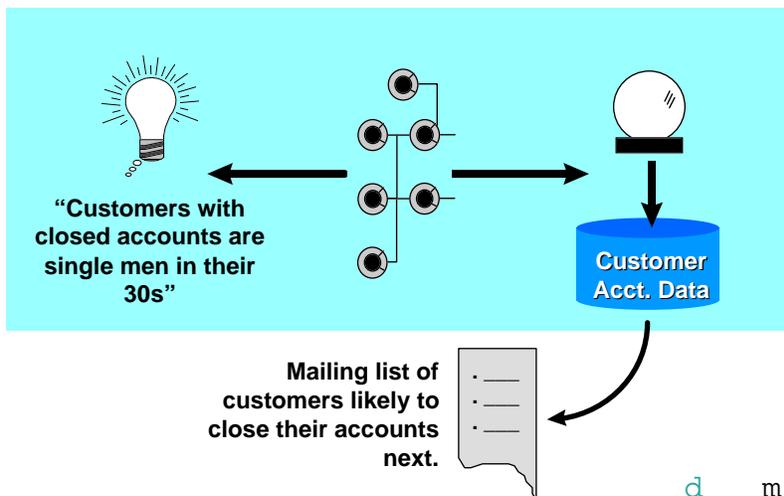
Step 1: Modeling



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Process Example Continued

Step 2: Viewing



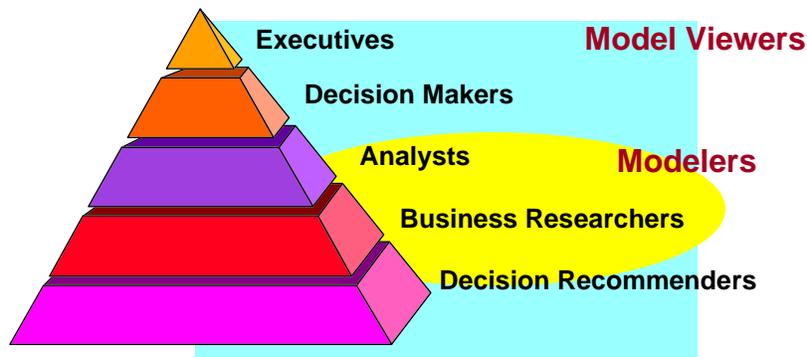
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Things to Know About Data Mining

- Data mining won't invent
 - don't expect to find a miracle, "big bang" data relationship if it doesn't exist
- Data mining won't always find something new
 - if you know your data well, data mining may only confirm your knowledge rather than expand it
- Data mining won't ignore bad data
 - un-intelligible or poor data produces bad results
- Data mining doesn't require large data sources
 - complexity determines the need, not size

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Who Uses Data Mining



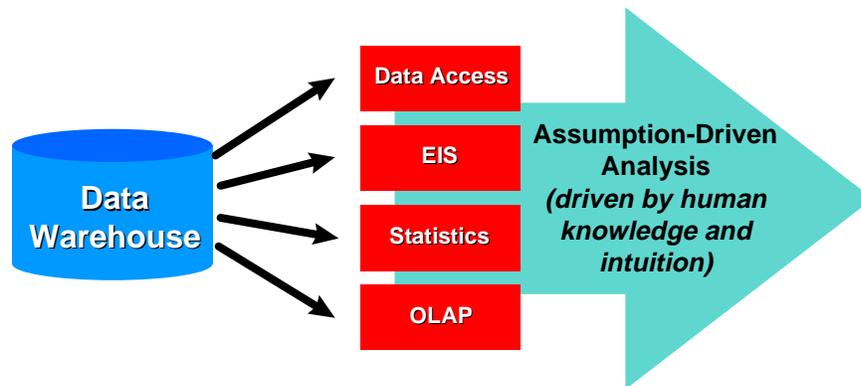
*Anyone Who Needs to be
Smarter About Your Customers!*

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Data Mining vs. Other Tools

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Typical Analysis Techniques Extract and Report Data Records

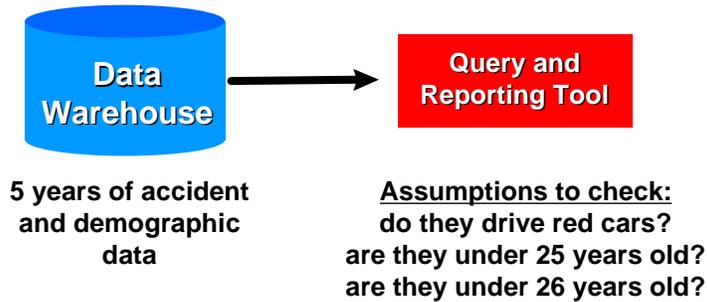


Assumptions are a starting point for analysis and leverage personal expertise

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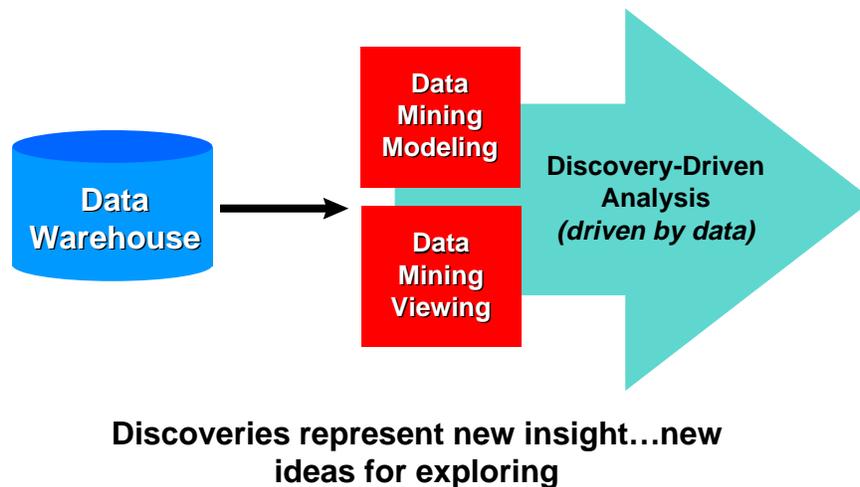
The Value of Assumption-Driven Analysis

“What is the profile of high risk car drivers?”



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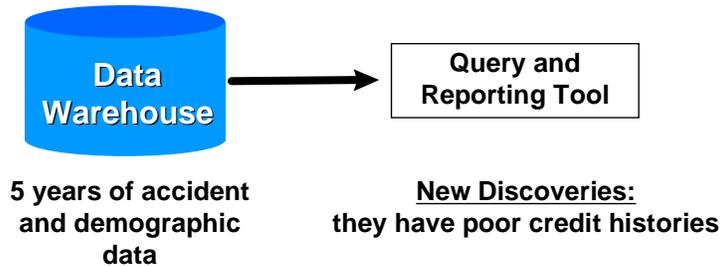
Discovery-Driven Analysis Lets the Data Drive the Questions



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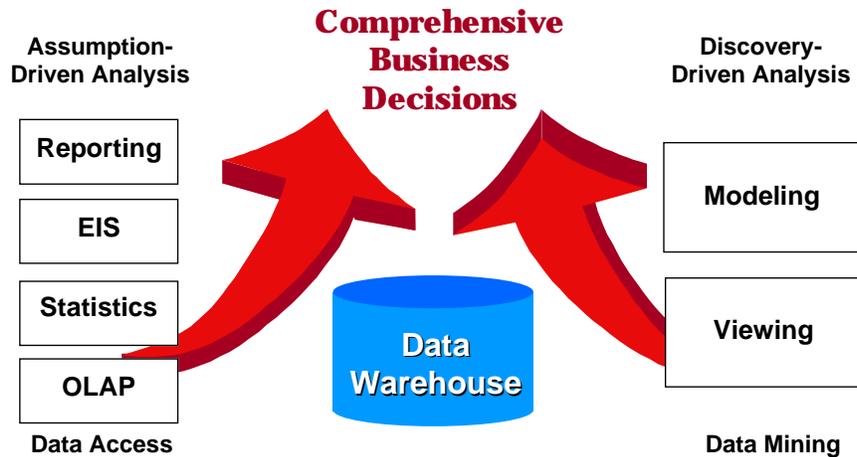
Going a Step Beyond Instinct With Discovery-Driven Data Mining

“What is the profile of high risk car drivers?”



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Data Mining: Complementary Solution for Data Analysis

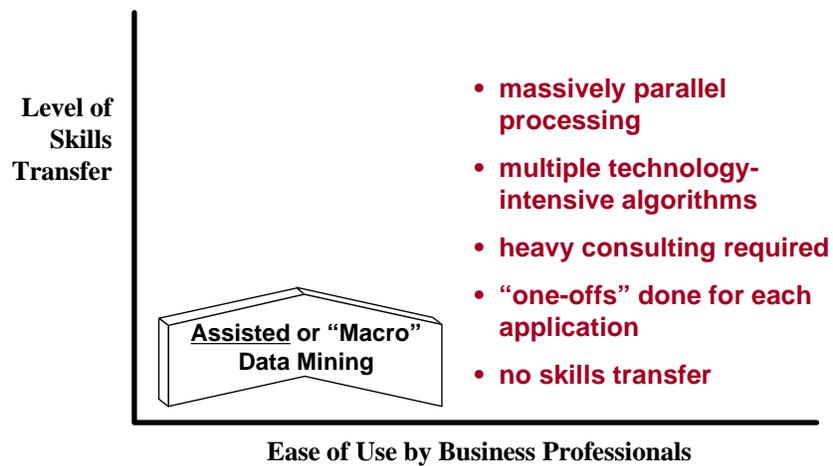


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Data Mining Approaches

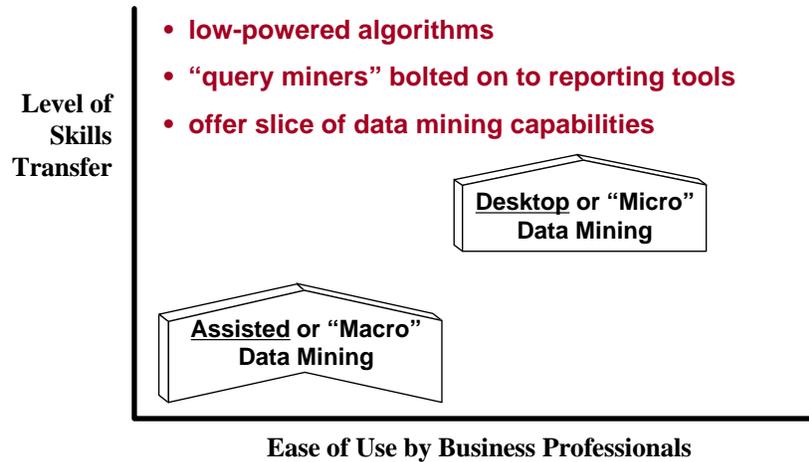
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Early Data Mining Approaches Were Complex and Required Assistance



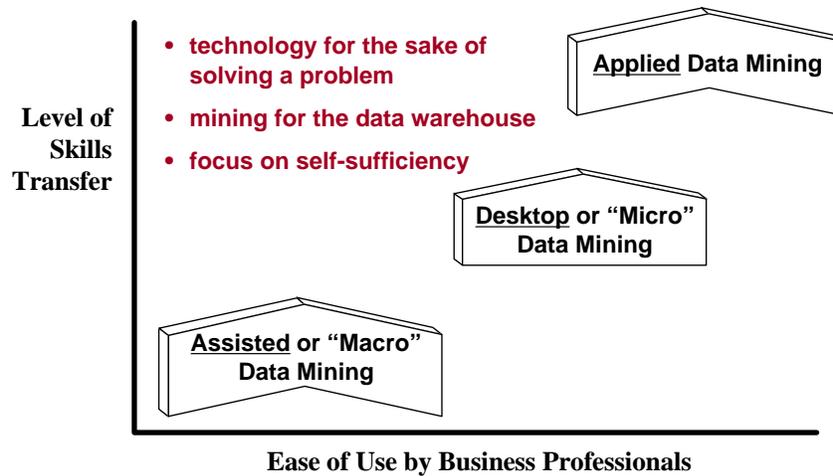
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Next Data Mining Came to the Desktop



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Today’s Data Mining Solves Specific Business Problems



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Data Mining Technologies

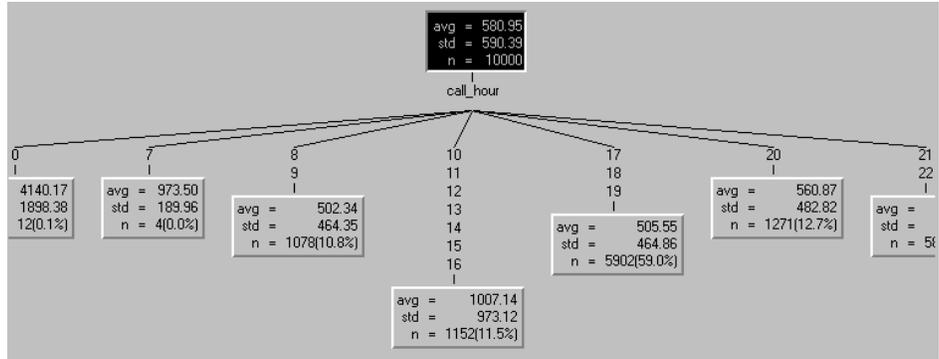
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Variety of Old and New Technologies

- Rule induction systems
- Decision trees
- Genetic algorithms
- Neural networks
- Bayesian belief networks
- Intelligent agent systems

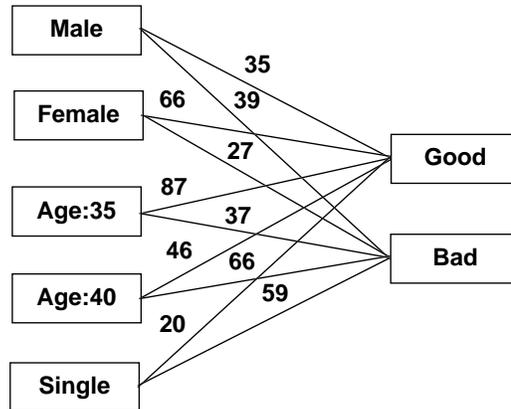
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Decision Trees



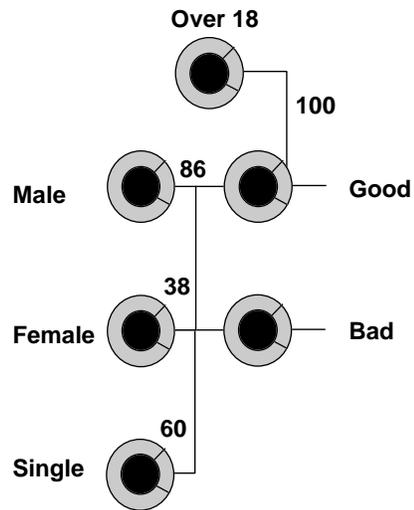
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Neural Networks



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Intelligent Agent Systems



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Data Mining Examples

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Automatic Data Processing (ADP)

- Dealer support division develops and sells turn-key systems for inventory management and service claim processing
- Corporate technical support center collects call data
- Use data mining to determine “successful” and “failure” support call characteristics

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DataMind in Action: Canadian Wireless Provider

Objective: Gain a competitive edge through focused customer marketing

- *Rate Plan Analysis for Market Segmentation*
- *Early Adopter Profiling for PCS Migration*
- *Dealer Customer Survey for Customer Profile*
- *Cross Selling for Revenue Growth*

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Summary

- Data mining is ready for prime time!
- Pick an application to focus on
 - Customer Life Cycle Planning
- Select an approach suitable to your business model
 - assisted, desktop, or applied data mining
- Get the marketers involved and measure success

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