

The Virtuous Cycle of Data Mining

- Data is at the heart of most companies' core business processes
- Data is generated by **transactions** regardless of industry (retail, insurance...)
- In addition to this internal data, there are lots of external data sources (credit ratings, demographics, etc.)
- Data Mining's **aim** is to find **patterns** in all of this data

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After the patterns have been found ...

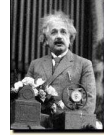
- Finding patterns is not enough
- Business (individuals) must:
 - Respond to the patterns by taking action
 - Turning:
 - Data into Information
 - Information into Action
 - Action into Value
- Hence, the Virtuous Cycle of Data Mining



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Is Data Mining Easy?

- Marketing literature makes it look easy
 - Just apply automated algorithms created by great minds, such as:
 - Neural networks
 - Decision trees
 - Genetic algorithms
 - “Poof”...magic happens!!!
- Not So...Data Mining is an iterative, learning process
- Data Mining takes conscientious, long-term hard work and commitment
- Data Mining’s Reward: Success transforms a company from being reactive to being pro-active



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Data Mining’s Virtuous Cycle



1. Identifying the business opportunity



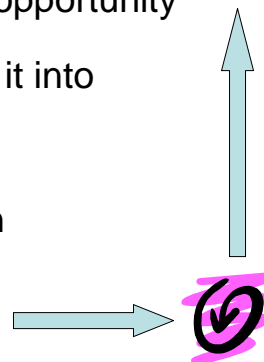
2. Mining data to transform it into actionable information



3. Acting on the information



4. Measuring the results



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1. Identifying the Business Opportunity




- Many business processes are good candidates:
 - New product introduction
 - Direct marketing campaign
 - Understanding customer attrition/churn
 - Evaluating the results of a test market
- Measurements from past Data Mining efforts:
 - What types of customers responded to our last campaign?
 - Where do the best customers live?
 - Are long waits in check-out lines a cause of customer attrition?
 - What products should be promoted alongside our XYZ product?
- Note: When talking with business users about data mining opportunities, make sure you focus on the business problems/opportunities and not on technology and algorithms.

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2. Mining data to transform it into actionable information



- Success is making business sense of the data
- There are various data issues:
 - Bad data formats (alpha vs numeric, missing, null, bogus data)
 - Confusing data fields (synonyms and differences)
 - Lack of functionality (“I wish I could...”)
 - Legal ramifications (privacy, etc.)
 - Organisational factors (unwilling to change “our ways”)
 - Lack of timeliness

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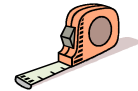
3. Acting on the Information



- This is the purpose of Data Mining – with the hope of adding value
- What type of action?
 - Interactions with customers, prospects, suppliers
 - Modifying service procedures
 - Adjusting inventory levels
 - Consolidating
 - Expanding
 - Etc...

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4. Measuring the Results



- Assess the impact of the action taken
- Often overlooked, ignored, skipped
- Planning for the measurement should begin when analysing the business opportunity, not after it is all over
- Assessment questions (examples):
 - Did this campaign do what we hoped?
 - Did some offers work better than others?
 - Did these customers purchase additional products?
 - Lots of others...

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